

# FIELD ASSESSMENT JAVA SEA

SURVEY OF THREE DUTCH WWII NAVAL WRECK SITES IN THE JAVA SEA

Progress Report

Martijn R. Manders, Robert W. de Hoop & Shinatria Adhityatama



## Table of Contents

1. Introduction.....	3
1.1 Background information.....	3
1.2 Joint Dutch-Indonesian investigation.....	3
2. Fieldwork 2019 introduction.....	5
3. Research objectives.....	5
4. Methods.....	6
5. Quality.....	6
6. Cooperation.....	6
7. Financial overview.....	6
8. Provisional results.....	7
8.1 Introduction.....	7
8.2 Hr.Ms. De Ruyter.....	7
8.3 Hr.Ms. Java.....	8
8.4 Hr.Ms. Kortenaer.....	8
8.5 General observations.....	9
9. Planned activities.....	9
References.....	11

# 1. Introduction

## 1.1 Background information

Hr.Ms. *De Ruyter*, flagship of Dutch Rear Admiral Karel Doorman, Hr.Ms. *Java* and Hr.Ms. *Kortenaer* were torpedoed by the Imperial Japanese Navy during the Battle of the Java Sea that took place on the 27th of February 1942. As a result of this, 915 men died. The defeat of this first battle on the 27th and smaller concessive engagements the days after meant not only the loss of the Battle by the American-British-Dutch-Australian Command (ABDACOM) but also the occupation of the Dutch Indies by the Japanese.<sup>1</sup>

Until 2002 the locations of the lost ships were unknown. On the 1st of December that year, an Australian tech-dive team discovered what they believed were the light cruisers Hr.Ms. *De Ruyter* and Hr.Ms. *Java*. The approximately 170 m and 155 m long ships were identified on specific features and photographically recorded. Two years later (2004), they claimed to have found the 98 m long destroyer Hr.Ms. *Kortenaer* as well (see e.g. Report – survey of naval wreck sites Java Sea 2016 14 nov 16, by Andrew Fock).

The wrecks have not been officially reported to either the Netherlands or Indonesian authorities. For several years however the wrecks were subjected to technical (tourist) dive trips and commemoration visits on the sea surface. In 2008, a dive trip on the two cruisers was recorded on film. The wrecks were lying well-preserved on the seabed. A small number of items was lifted from the wrecks in consecutive years. Four bells with the names of the *Java* and the *De Ruyter* and other objects that found their way to an auction house in Australia, the Navy Museum in Den Helder and places like the War cemetery in Surabaya.

In 2016 another dive trip to the sites was organised by MV *Empress* in order to record the wrecks on film for the 75 years commemoration of the Battle of the Java Sea on the 27th of February 2017. During that trip it was noted that on the same positions they had dived earlier, no wrecks were present of what they had identified as the *De Ruyter* and *Java*. Only large trenches and some metal pieces of shipwrecks were discovered in the area. On the location of the supposed *Kortenaer* only a small fraction of the earlier discovered shipwreck parts remained on site. The dive team came to the conclusion that the wrecks had been salvaged and reported this to the Karel Doorman Foundation in the Netherlands which in turn notified the Dutch authorities.

## 1.2 Joint Dutch-Indonesian investigation

The Dutch authorities discussed the reported missing of the wrecks with the Indonesian authorities. All available information was gathered and recorded by third parties and none of this data was previously available to the two governments. It was therefore decided that a joint research team of Netherlands and Indonesian government experts would evaluate the available data. A joint Dutch-Indonesian investigation was started into the disappearance of the three Dutch warships from the Java Sea.

---

<sup>1</sup> For a more detailed description of the Battle in the Java Sea see: Bezemer 1987; Bosscher 1986; Cox 2011; Cox 2014; Doedens/Mulder 2017; Helfrich 1950; Kroese 1945; Nater 1980.

The investigation focused on three tracks:

1. Joint verification of the disappearance of the warships.
2. Joint appreciation of the facts and a legal framework regarding the missing wrecks of sunken warships.
3. Cooperation for future preservation of war graves and maritime cultural heritage.

From the 6th to the 9th of February 2017, experts from the Netherlands and Indonesia met in Jakarta to conduct the first track: a joint verification related to the status of the shipwrecks of Hr.Ms. *De Ruyter*, Hr.Ms. *Java* and Hr.Ms. *Kortenaer*. The aim was to find out whether the claim of the disappearance of the wrecks could be verified and whether the information collected by the divers could be validated. In the joint verification experts of relevant disciplines from both countries were present, including hydrography, underwater archaeology and cultural heritage management. The verification was to gain clarity about the identification of the shipwrecks *De Ruyter*, *Java* and *Kortenaer* and the status - location and condition - of the shipwrecks. The experts were asked to draw their conclusion based on the claims made by the divers and the collected information provided by them and others. The experts did this with a combination of data sets: video, photos, multibeam data and descriptions of divers.

The conclusion was that the positions and ship characteristics are fairly consistent with the historical data regarding the battle, the ships and their sinking. These are certainly the shipwrecks of *De Ruyter*, *Java* and *Kortenaer*. However, it has become clear that the *De Ruyter* and *Java* are reversed in relation to the positions recorded earlier during the battle.<sup>2</sup> An analysis of video, photo and multibeam data from the KDF dive trip provides convincing evidence of systematic salvage at all three locations. The degree of salvage ultimately also needed to be checked on site, because it was unclear how much debris had been left on and in the seabed.<sup>3</sup> The end result of the joint mission resulted in a report that can be found online.<sup>4</sup>

In August 2017 experts from the Netherlands and Indonesia met again in Jakarta to talk about track 2. The aim for this stage in the cooperation was to determine what could have happened to the Dutch warships and by whom, including an appreciation in legal terms. Before and after this meeting, there was contact between the Netherlands and Indonesia because both countries would do research for this track in their own country. The main conclusion of the meeting in August was that the warships were recovered in an industrial way, without official permission from the Indonesian authorities. It proved to be impossible to establish who salvaged the warships.

Indonesian authorities stated that they did not observe suspicious situations in the nearest ports during the period in which the illegal disposal of these wrecks was presumably carried out. In Indonesia and the wider region there are more often (large-scale) illegal but also legal salvage operations.<sup>5</sup> According to the Indonesian authorities there was, as far as can be ascertained, no scrap of these three Dutch warships offered locally (see "Report of the joint expert meeting," 2018<sup>6</sup>). After this research it was decided to close track 2, because more answers were not expected and the idea

---

<sup>2</sup> Kroese 1945; Helfrich 1946.

<sup>3</sup> Manders et al. 2017, 31-32.

<sup>4</sup> Report of the joint mission is available online at: <https://maritime-heritage.com/files/reportverificationmissionfeb2017javaseapublic210217pdf> (on 28/08/2019).

<sup>5</sup> Holmes, Ulmanu & Roberts 2017; Sudaryadi et al. 2012, 17.

<sup>6</sup> <https://www.rijksoverheid.nl/documenten/kamerstukken/2018/01/18/kamerbrief-over-uitkomsten-onderzoek-verdwijning-gezonken-schepen-in-de-javazee> (on 28/08/2019).

was that track 3 – jointly working together on the management of Dutch shipwrecks in Indonesian waters – would be a good follow up in order to prevent these kinds of illegal salvaging in the future. The finishing of track 2 was followed by speculations in the media that were not based on hard facts, but were fuelled by the urge to find the guilty. Alleged evidence of scrap processing activities of the three Dutch warships were presented including eyewitnesses of the recovery of remnants of soldiers. According to the unidentified sources, these remnants would have been collected and reburied in a cemetery. This resulted in even more public outcry and even parliamentary questions and extra efforts to investigate these claims. The claims, however, proved to be unfounded and often even untrue.<sup>7</sup>

A first important step in the future cooperation, part of track 3, has already been taken in February 2017 during the visit of Minister Bussemaker of Education, Culture and Science to Indonesia with the signing of a Memorandum of Understanding (MoU) with the Indonesian Ministry of Culture for cultural cooperation. This MoU also contains a paragraph in which the cooperation in maritime heritage management is mentioned.<sup>8</sup> Another important step in track 3 was that at the request of the Netherlands, the three wreck locations of the *De Ruyter*, *Java* and *Kortenaer* were marked as 'historic shipwrecks' on the nautical maps of Indonesia on 7 July 2017. This means that it is no longer allowed to dive, anchor or fish on these locations.

## 2. Fieldwork 2019 introduction

The International Programme for Maritime Heritage of the Cultural Heritage of the Netherlands (RCE) was in Indonesia from 10 to 21 June 2019 to work together with ARKENAS (Pusat Arkeologi Nasional) to implement track 3 which consisted of fieldwork on the three wreck sites to establish the extent of salvaging onsite. In addition to the implementation of track 3, the fieldwork was also an interpretation of the Letter of Intent drawn up between the two countries for the management of the three wreck sites and the Memorandum of Understanding for culture signed between the two countries in 2017. In the Netherlands, the Ministries of Education, Culture and Science, Defence and Foreign Affairs worked together intensively to make this project happen. In Indonesia, the project was supported by KEMLU and the Embassy of the Netherlands in Jakarta.

## 3. Research objectives

The aim of the fieldwork was to systematically map the seabed at the three Dutch warship wreck sites in order to get a better view of what is still left and what the potential of the location is for research, protection and/or commemoration. It is the aim that after the fieldwork a joint management plan will be drawn up based on the systematically gathered archaeological and hydrographical data. The results of the fieldwork may (and probably will) also be used as a driver for discussions between the Netherlands and Indonesia about the value of this and other heritage and between various stakeholders - including the relatives - about future policies.

---

<sup>7</sup> The investigation of the Salvage and Identification Service of the Royal Netherlands Army on the spot only produced animal bone material. See: <https://www.rijksoverheid.nl/documenten/kamerstukken/2018/03/16/kamerbrief-over-de-bevindingen-van-het-onderzoek-naar-verdwenen-scheepswrakken-in-de-javazee>

<sup>8</sup> <https://maritime-heritage.com/files/moucultuurnederlandindonesieenggetekend2pdf> (on 28/08/2019).

## 4. Methods

The fieldwork consisted of a non-intrusive field assessment of the wreck sites of Dutch warships *De Ruyter*, *Java* and the *Kortenaer*. A marine remote sensing survey was done to collect the necessary archaeological and hydrographic data needed for future management. The data was collected systematically as part of a baseline study for future management. The documentation of the seabed was done with the following remote sensing techniques:

- Multibeam;
- Side scan sonar;
- Magnetometer;
- Sub-bottom Profiler;
- ROV (Remotely Operated Vehicle).

## 5. Quality

The archaeological work was done according to UNESCO standards specified in the 'Manual for Activities Directed at Underwater Cultural Heritage: Guidelines to the Annex of the UNESCO 2001 Convention' ([www.unesco.org/culture/en/underwater/pdf/UCH-Manual.pdf](http://www.unesco.org/culture/en/underwater/pdf/UCH-Manual.pdf)).

Hydrographical data was acquired according to the S-44 standards for hydrographic surveys set by the International Hydrographic Organization (IHO) ([https://www.iho.int/iho\\_pubs/standard/S-44\\_5E.pdf](https://www.iho.int/iho_pubs/standard/S-44_5E.pdf)), so that the data could be used to get more exact positions of the three wreck sites (especially depth data of the *Kortenaer*).

## 6. Cooperation

The research was carried out in collaboration with Arkenas - the Indonesian counterpart of the RCE. The ship, the *Baruna Jaya II*, and a specialized crew was hired for the expedition from the Indonesian state-owned Agency for the Assessment and Application of Technology (BPPT). The entire team boarded the *Baruna Jaya II* on the 13<sup>th</sup> of June 2019 in the harbour of Jakarta after RCE had required the necessary research permit. A welcome ceremony took place with speeches by, among others, the director of Arkenas, I Made Geria, and Yolande Melsert, Director Erasmus Huis and Head Culture & Communication at the Embassy of the Kingdom of the Netherlands. In the evening the ship sailed out at 9:30 PM. The ship had a maximum speed of 9 knots therefore it took two and a half days before reaching the first site; *De Ruyter*.

## 7. Financial overview

Description	Costs in EUR
The rent of <i>Baruna Jaya II</i>	€ 182.125,00
Documenting costs	€ 6.495,28
Travel and accommodation expenses	€ 9.000,00
<b>Total</b>	<b>€ 197.620,28</b>



Figure 1: The survey ship used during the expedition, the Baruna Jaya II.

## 8. Provisional results

### 8.1 Introduction

On all three wreck sites the first step was to map the site with multibeam. With the multibeam data, a plan was then made to map the site further with side scan sonar, magnetometer, sub-bottom profiler and eventually to record the site with ROV to get video to visualize the disturbances found on and in the seabed.

### 8.2 Hr.Ms. De Ruyter

There are more remains of *De Ruyter* still at the wreck site than was expected after the report of the 2016 dive team and their multibeam recording. Large pieces, of up to about 10 meters in length, of the ship are still visible on the seafloor, with additional smaller debris. No personal items were spotted while mapping the site with the ROV. There are also a few parts covered with sand and clay. The entire site has been turned over during the illegal salvage and is very disturbed. A cautious estimate is that less than 5% of the wreck is on the seabed. The data has to be analysed further to make a more detailed estimate.



### 8.3 Hr.Ms. Java

At the location of the *Java* much less is visible at the seafloor. The shapes of (metal) material are visible (just) below the sandy sediment. Holes are visible in the sand that are caused because sand has fallen down through (probably) all kinds of ship parts. No personal items were spotted while mapping the site with the ROV, but many large cartridge cases were visible on the seafloor. Just like with the *De Ruyter*, the entire site is disturbed as it was turned over during the illegal salvage. Here, too, we suspect that a maximum of 5% of the ship still lies on the bottom. The data has to be analysed further to make a more detailed estimate.

### 8.4 Hr.Ms. Kortenaer

At the location of the *Kortenaer*, the already known ship section is particularly recognizable. This ship section is also visible on video made by the dive team in 2016. The height of this ship section is up to 10 meters in some places. Quite substantially, but the metal is very badly damaged and visibly pinched during the illegal salvage. Not much other parts were found around the ship section. The large part makes up somewhere between 10 and 15% of the total wreck, which was also the estimation of the dive team in 2016. The data has to be analysed further to make a more detailed estimate. No personal items were spotted while mapping the site with the ROV.



Figure 2: A photo made of the monitor during an ROV run.



### 8.5 General observations

A lot of thick rope has been observed at all three sites, particularly in relation to large thick steel plates. There are two possibilities: they could be the remains of old fishing nets that have been entangled in the wreck prior to the salvaging, or it is rope used during illegal salvage. In some places it appeared that the rope was tied around the steel plates. Only in one place a fishing net was seen in combination with rope. The images will have to be analysed further, but there is a suspicion that the rope was used during the salvage and that the parts that are still on the seafloor fell when the salvors tried to lift the parts with the ropes. Finding lost parts back after falling down on the seabed again would have been difficult without the proper equipment and perhaps the salvors did not think it was worth the effort. The above is all still speculation, but definitely an option.

## 9. Planned activities

As mentioned in the introduction, the three wreck locations of the *De Ruyter*, *Java* and *Kortenaer* were marked as 'historic shipwrecks' on the nautical maps of Indonesia on 7 July 2017. However, these are just point locations. Together with Indonesia it is currently being examined whether the point locations of the wreck sites can be converted into larger protected areas by marking them as cultural heritage and places of remembrance (a recommendation from the track 1 report). Therefore a possible outcome may be that instead of full closure of the wreck sites, the sites may be opened up for these kinds of respectful activities. In that way the locations still have a valuable function.

In the coming three months it is the aim that the RCE and Arkenas will draw up a management plan together based on the systematically gathered archaeological and hydrographical data. In November 2018 a Letter of Intent was signed between the two governmental cultural heritage organisations, ARKENAS and RCE specifying the cooperation between the two countries in maritime heritage management in general. Setting up of a long-lasting management plan for the wreck sites and making agreements about the way of sharing knowledge, capacity building in underwater archaeology and underwater cultural heritage management and doing joint research will be part of this cooperation.

Early September, BPPT will have a report ready with an analysis of all the bathymetric data.

In summary, there is still a lot of material left on site of the three Dutch WWII wrecks De Ruyter, Java and Kortenaer. The sites are of cultural and historical importance to the Netherlands, but have an even stronger commemorative value for the relatives of those who died there. In October these relatives will be informed about the results of the fieldwork.

## References

- Bezemer, K.W.L. (1987). *Zij vochten op de zeven zeeën*. Zeist.
- Bosscher, P.M. (1986). *De Koninklijke Marine in de Tweede Wereldoorlog deel 2*. Franeker.
- Cox, J. (2011). *A Turn Too Far: Reconstructing the End of the Battle of the Java Sea*. n.p.
- Cox, J. (2014). *Rising Sun, Falling Skies: The disastrous Java Sea campaign of World War II*. New York.
- Doedens, A. & L. Mulder (2017). *Slag in de Javazee. Oorlog tussen Nederland en Japan*. Zutphen.
- Helfrich, C.E.L. (1950). *Memoires. Eerste deel. De Maleise barrière*. Amsterdam/Brussel.
- Holmes, O., M. Ulmanu & S. Roberts (2017). *The world's biggest grave robbery: Asia's disappearing WWII shipwrecks*. Retrieved from: <https://www.theguardian.com/world/ng-interactive/2017/nov/03/worlds-biggest-grave-robbery-asias-disappearing-ww2-shipwrecks>
- Kroese, A. (1945). *Neerland's Zeemacht in Oorlog*. London.
- Manders, M.R., R.W. de Hoop, S. Adhityatama, W.A. Barten, B. Budi Utomo, O. Dwiyana, A. Kusno, J. Rechar & Z. Tahir (2017). *Joint verification of the location and condition of Hr.Ms. De Ruyter, Java and Kortenaer, 6 to 9th of February 2017*. Jakarta.
- Nater, J.P. (1980). *Koers 300 vaart 25. De slag in de Javazee*. Haarlem.
- Sudaryadi, A., J. Wahjudin & M. Manders (2012). Het beheer van het maritiem Erfgoed in Indonesië, *Vitruvius* 18, januari 2012, pp. 14-20.