



Analysis of Factors of Delay in Salvage Activities in Pollution Prevention Efforts in the Waters of Nias, North Sumatra

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Article Info	Abstract
Article History Received: 2025-05-13 Revised: 2025-06-23 Published: 2025-07-09 Keywords: Delay; Marine Pollution; Nias Waters; Salvage.	This research discusses the delays in the salvage process of a ship with Gabon-flagged vessel that ran aground in February 2023. The ship was carrying approximately 3,600 metric tons of liquid asphalt, which posed a significant threat of marine pollution and caused damage to the marine ecosystem, including coral reefs and mangrove forests. The delay in salvage operations negatively impacted the social and economic livelihoods of coastal communities. This study employs a qualitative method with data collected through interviews and documentation. The delay factors were classified into internal factors such as limited equipment and a lack of skilled personnel at the site. External factors included weather conditions, sea waves, difficult access to the location, and the involvement of multiple institutions, which prolonged the handling time. Therefore, the study highlights the need for an integrated standard operating procedure (SOP), improved inter-agency coordination, and regulatory updates to accelerate maritime incident response and prevent further environmental degradation.
Artikel Info	Abstrak
Sejarah Artikel Diterima: 2025-05-13 Direvisi: 2025-06-23 Dipublikasi: 2025-07-09 Kata kunci: Penundaan; Pencemaran Laut; Perairan Nias; Penyelamatan.	Penelitian ini membahas keterlambatan proses penyelamatan kapal berbendera Gabon yang kandas pada Februari 2023. Kapal itu membawa sekitar 3.600 metrik ton aspal cair, yang menimbulkan ancaman pencemaran laut yang signifikan dan menyebabkan kerusakan pada ekosistem laut, termasuk terumbu karang dan hutan bakau. Penundaan operasi penyelamatan berdampak negatif pada mata pencaharian sosial dan ekonomi masyarakat pesisir. Penelitian ini menggunakan metode kualitatif dengan data yang dikumpulkan melalui wawancara dan dokumentasi. Faktor-faktor penundaan diklasifikasikan ke dalam faktor internal seperti peralatan yang terbatas dan kurangnya personel terampil di lokasi. Faktor eksternal termasuk kondisi cuaca, gelombang laut, akses yang sulit ke lokasi, dan keterlibatan beberapa institusi, yang memperpanjang waktu penanganan. Oleh karena itu, studi ini menyoroti perlunya prosedur operasi standar (SOP) terintegrasi, peningkatan koordinasi antar lembaga, dan pembaruan peraturan untuk mempercepat respons insiden maritim dan mencegah degradasi lingkungan lebih lanjut.

I. INTRODUCTION

Indonesia is dominated by large water areas as well as very ideal geographical conditions, located between two continents and two oceans. This makes Indonesia at the middle point of connectivity between the eastern continent and the western continent. Especially in sea transportation modes are a vital means of supporting economic movements in Indonesia as a means of distribution. In addition, the advantage of a maritime country is that underwater natural resources (SDA) are very abundant, oil potential and the choice of transportation modes are certainly the main choice in distributing both passengers and/or goods. Not only domestically but also in foreign communities The high traffic flow at sea certainly leads to risks that arise and occur such as ship

sinking, burning, collision, running aground and others.

Perils of the sea are unpredictable events but the existence and extent of damage or losses can be known. This makes the owner and service user have to consider insurance to guarantee the goods transported during the delivery process in the event of an uncertain event, the carrier does not pay premiums to the insurance company. The many possibilities that occur must be considered the existing insurance clauses, one of the important clauses is the rescue of the ship or further it can be said to be (Uçar, 2021) *salvage* (Mandatra, 2015)). *Salvage* itself according to the Regulation of the Minister of Transportation number 71 of 2013 paragraph 4 which was subsequently updated in No. 27 of 2022 explains: Regulation of the Minister of Transportation *salvage* is work to provide assistance to ships

and/or in dangerous situations in the waters, including lifting the ship's skeleton or underwater obstacles or other objects. These activities can be handled with the private sector by providing reciprocity based on agreements or contracts that have been agreed upon and with permission from the relevant government, in this case KPLP (Princess. Riska A, 2024).

According to British maritime law, *salvage* is a unique concept of activity. It is said that because people voluntarily carry out rescues (Maharani, 2021). *However, if the same service is performed at sea, the person saving the property "he salvor" will be entitled to a reward not exceeding the value of the property saved* (Baughen et al., 2023). This concept is not much different from the concept in Indonesia, there is no concept of rescue on land but at sea rescue will get *a salvage reward*. One of the events that existed was the sinking of one of the Gabon-flagged ships carrying 3,600 metric tons of liquid asphalt transportation that damaged underwater natural resources in the waters of North Nias, precisely in Humene Siheneasi Village, Tulaga Oyo District. The Executive Director of Walhi North Sumatra said the damage occurred ranging from coral reefs, mangrove forests and coastal areas. This has made the economy of the surrounding community also deprived and disrupted, especially people who make a living as fishermen. The ship ran aground on February 11, 2023, but until June 7, 2024, there has been no action from the relevant companies (Rainforest, 2024).

The effect arising from the petition of the incident prompted the local government to urge the relevant companies to immediately lift the wreck or *salvage* activities and the central government to supervise these activities. Considering that the losses caused are very much if these activities are not handled immediately.

This is a shared responsibility between the government and related companies. This incident is certainly detrimental to the country, the Ditkapel together with the KPLP are the parties responsible for supervising and permitting underwater work activities and/or *salvage* to prevent marine pollution and minimize the losses that occur. The regulation is a commitment to maintain and improve the protection of the maritime environment. Considering that the content stipulates that the shipowner is obliged to get rid of the ship's frame and cargo if it interferes with the safety and security of shipping within 180 days from the date of the ship's sinking. This is an effort by the

government to improve shipping safety by anticipating potential dangers due to shipwrecked hulls in Indonesian waters. The surrounding community continues to emphasize the importance of quick response, coordination between agencies and efforts to deal with pollution. Minister of Transportation Number 29 of 2014 concerning Prevention of Maritime Environmental Pollution, Law No. 17 of 2008 concerning Shipping.

II. METHOD

The author uses a qualitative method to convey the results of the research. The research uses qualitative methods, emphasizing descriptive writing and using analysis. Directorate of Shipping and Maritime Affairs (Ditkapel) and KPLP. In this study, primary data can be obtained from interviews with people who are involved in this case, namely two Disaster Management and Underwater Works (PBA) Staff and one Pollution Prevention and Ship Safety Management and Environmental Protection in Waters (PMKK) Staff to obtain information and data related to the delay in *salvage* activities.

III. RESULT AND DISCUSSION

A. Result

1. Internal Meetings of the Authorities

The initial meeting between the surveyor, *marine consultant* and the party from UPP Class III Lahewa was the first step to determine the technical lifting of the ship's skeleton or *salvage*. This meeting also discussed related to licensing and mobilization of heavy equipment in the area where the incident occurred, in accordance with the existing field conditions far from large ports. Equipment and other preparations that must be prepared to support the effectiveness of *salvage activities*

a) Basecamp Creation

In carrying out *salvage* activities to facilitate mobility, the surveyor made *a basecamp* for equipment and goods to be stored here. *The basecamp* was set up 250m from the surveyor's rest area. So that heavy equipment is not too far from the location of the ship's skeleton removal or *salvage*.



Figure 1. Heavy equipment mobility basecamp

Source: KPLP (2025)

b) Basecamp Creation

The meeting between *the surveyor* and *the marine consultant* on how the equipment and techniques that had previously been agreed on were in accordance with the conditions in the field. Preparation of peeling and goods as needed with *salvage* techniques that have been planned, in conditions is *scraping salvage*. These activities must also pay attention to environmental conditions so that they do not further damage/pollute the ecosystem.



Figure 2. Internal Meetings in the Wreck Area

Source: KPLP (2025)

2. Basecamp Creation

The condition of the Gabon-flagged ship when the removal of the ship's skeleton in the waters of Nias, North Sumatra, will be carried out. In accordance with the conditions of the field, *scraping salvage* is carried out, there is an exclusive ecosystem zone so that incidents do not occur that make the condition worse, the surveyor and *marine consultant* must consider many things and conditions far from the mainland, additional equipment is needed to get to the scene of the incident.



Figure 3. Gabon-flagged ship at the scene

Source: KPLP (2025)

In addition, in accordance with the results of the record of the results of the activities submitted by *the marine consultant* by PT Camarindo, there is information that the wreck is located at latitude 01 05.93 north and longitude 097 degrees 21.107 east and tilted to the right side of about 29 degrees. With the condition of the end of the main deck, flooding is caused by seawater and rainwater entering the ship. Seeing the field conditions that occur, a handling decision or action plan can be made to lift the wreck from the oblique to the right side and pull the wreck to the beach. In addition, *the salvor team made an action plan to make a road of about 8 km with stones and sand to get to the location for trucks to pass to carry rescue equipment.*

Based on information, *salvor diving* has an estimated road preparation to be completed within seven days and rescue operations including the installation of a wreck removal system in about 25 days. This implementation was carried out by a *salvor Three Diving* diving crew of 23 people, 4 people from Navi and local residents for security and road construction from the main to the beach location. This note also added that the weather conditions in the incident area were waves of about 1.5 meters to the southwest, gentle wind, cloudy and good visibility.



Figure 4. April Salvage Activity Recap

Source: Processed Author (2025)



Figure 5. Recap of May Salvage Activities
Source: Processed Author (2025)

From figures 4 and 5, it is found that the activities that are often carried out are road and bridge repairs for the mobility of *salvage* equipment, good road access is needed so that vehicles can reach the scene of the incident. This activity takes at least up to seven days, of course this is one of the inhibiting factors in cargo and wreck rescue activities. In addition, erratic weather conditions also result in other activities not being able to run, the effect of the erratic weather is strong winds and large sea waves. It can be said that from April to May it is still raining weather, from the records of the results of the activity it is also seen that the sea wave conditions of Nias waters can be seen:

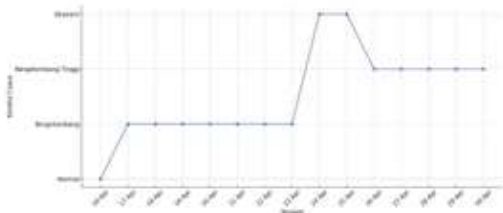


Figure 6. Wave Conditions in April 2024
Source: Processed Author (2025)

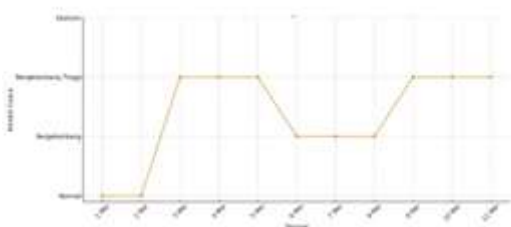


Figure 7. Wave Conditions in May 2024
Source: Processed Author (2025)

B. Discussion

Based on the results of interviews and documentation that have been carried out by researchers at the KPLP Office and the Ditkapel, there is a formulation of problems in

the implementation of *salvage* activities on Gabonese-flagged ships in Nias waters. According to the results of the analysis, the problems discussed according to the problem formulation are how the factors of delay in *salvage* activities on Gabon ships in Nias waters:

1. Internal Factors Analyst Salvage Delay

Internally, several issues were identified:

- a) Lack of technical readiness. The remote terrain and distance from major ports caused logistical delays. Early planning did not fully account for the complexity of field access and had to be revised multiple times.
- b) Poor internal coordination. Overlapping roles in the field and ineffective communication between salvors and foreign shipowners created bottlenecks, especially due to cross-border administrative complexities.
- c) Limited human resources. A shortage of certified divers and salvage operators caused the work to be done in shifts, slowing down overall progress.

This finding is in line with Gunawan's (2020) theory which mentions internal factors such as technical readiness, logistics, and human resources as the main components in slowing down salvage operations.

2. Analysis of External Factors of Salvage Delay

Externally, several constraints were observed:

- a) Extreme weather. High waves and frequent rainfall disrupted salvage schedules.
- b) Inaccessible location. The site's distance from major ports necessitated the construction of an 8 km temporary road for equipment transport.
- c) Regulatory complexity. Multiple permits from agencies (KPLP, KSOP, KLH) created administrative delays.
- d) Shipowner-related delays. Payment issues regarding insurance and salvage funding postponed field decisions.
- e) Environmental sensitivity. The presence of coral reefs and protected marine habitats required technical recommendations before action, delaying immediate operations.

f) Global supply chain issues. Post-pandemic disruptions slowed equipment imports.

g) These align with Vitaloka (2023), who states that such delays increase the risk of marine pollution and demand coordinated cross-agency response strategies.

These factors reinforce the theory from Vitaloka (2023) that delayed *salvage* activities will increase the potential for marine pollution and require mitigation based on cross-agency collaboration.

3. The Impact of Salvage Delays on the Environment and Society

The delay in salvage operations had serious implications:

a) Marine ecosystems suffered from chemical spills and leaking asphalt, damaging coral reefs and disrupting marine biodiversity.

b) Local economy was heavily impacted, especially fishermen whose fishing grounds became polluted.

c) Navigational safety was compromised, as the submerged hull remained a hazard to passing vessels.

This finding is in line with the theory of Putri (2024) and Juliyanri (2020) which states that the delay in *salvage* enlarges the pollution area and prolongs the recovery of the ecosystem and surrounding economic activities

4. Evaluation of Salvage Procedures and Institutional Responsibility

Based on the results of the research, the evaluation analysis is as follows:

a) The licensing procedure has been running relatively well because it is available online through SIMKPLP. However, administrative factors beyond the control of the KPLP (such as insurance claims and inter-agency coordination) slow down the operational process.

b) The appointed surveyor has been appointed as the implementers, but their implementation still depends on the decision of the ship owner and the situation on the ground.

c) KPLP and Ditkapel took steps to withhold CLC and CLCB certificates as a form of pressure on the ship's owner

company to immediately complete the salvage and cleaning area.

This step reflects the strategy recommended by Firdaus & Supomo (2021), namely by strengthening regulations, emergency SOPs, and improving cross-sector coordination.

IV. CONCLUSION AND SUGGESTION

A. Conclusion

Based Based on the results of research and analysis that has been carried out regarding the salvage operation postponement in the case of Gabon ships in the waters of Nias, North Sumatra, it can be concluded that the factors for delaying salvage activities are divided into two main categories, namely internal factors and external factors. Internal factors include: lack of technical readiness and planning, limited salvage experts, weak coordination between implementation teams in the field. Meanwhile, external factors include: extreme weather, hard-to-reach location access, complex licensing regulations, administrative problems on the part of ship owners, environmental impact concerns, and post-pandemic logistical delays.

Salvage delays have a serious impact on the marine environment and surrounding communities. Damage to ecosystems such as coral reefs, disturbances to marine life, and disruption of fishermen's livelihoods are the main consequences of this delay. In addition, shipwrecks that are not lifted immediately also endanger shipping lanes and pose a navigation risk.

The role and responsibility of institutions such as the Ditkapel and KPLP are crucial in the supervision and control of salvage. The steps to withhold CLC and CLCB certificates as well as cross-agency coordination are part of the pressure mechanism on the ship owner to immediately complete the salvage and area cleaning up obligations.

Licensing procedures through SIMKPLP have helped speed up the administrative process, but other obstacles outside the system, such as insurance payment constraints or jurisdictional differences due to foreign-flagged vessels, remain challenges that slow down operations in the field. Therefore, comprehensive mitigation strategies and improved institutional coordination are urgently needed to prevent similar delays in future salvage operations.

B. Suggestion

Based on the conclusions presented above, the researcher made the following suggestions that Licensing procedures through SIMKPLP have helped speed up the administrative process, but other obstacles outside the system, such as insurance payment constraints or jurisdictional differences due to foreign-flagged vessels, remain challenges that slow down operations in the field.

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