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THE LEGAL STATUS OF INDONESIA'S ARCHIPELAGIC SEA LANES (ALKI) UNDER THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA (UNCLOS 1982) IN RELATION TO THE OPERATION OF FOREIGN UNMANNED UNDERWATER VEHICLES

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Abstract
The designation of Indonesia's Archipelagic Sea Lanes (Alur Laut Kepulauan Indonesia, ALKI) implements Article 53 of the 1982 United Nations Convention on the Law of the Sea (UNCLOS) by the world's largest archipelagic state. That legal framework was drafted in an era when manned ships and aircraft were the only users of sea lanes. Today, foreign unmanned underwater vehicles (UUVs) have repeatedly been found in Indonesian waters, raising the question of whether a UUV can be classified as a "ship" entitled to archipelagic sea lanes passage (ASLP), and what Indonesia may do about it. This article uses a normative juridical method with statutory, conceptual, and state-practice case approaches. The findings show that (1) ALKI is not the source of the right of passage but a mechanism for channeling the ASLP right that derives from UNCLOS, and because the designation is only partial, the ASLP right continues to attach to routes normally used for international navigation; (2) UNCLOS does not define "ship," so the status of UUVs remains open and determines all of their legal consequences; (3) regardless of their classification, UUVs that conduct research or survey activities during passage violate Articles 19(2)(j), 40, and 54 of UNCLOS; and (4) Indonesia needs to clarify its legal position through national regulation, diplomacy, and the International Maritime Organization (IMO).

Keywords : ALKI UNCLOS 1982 archipelagic sea lanes passage unmanned underwater vehicles archipelagic state sovereignty.

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I. INTRODUCTION

A. Background

The acceptance of the archipelagic state concept in UNCLOS is regarded as one of Indonesia's greatest diplomatic successes.[1] The concept was born as a compromise archipelagic states obtained sovereignty over archipelagic waters (Article 49), while maritime states obtained a guarantee of freedom of navigation through the archipelagic sea lanes passage regime (Articles

[1] Blue Security Programme (in collaboration with Fulcrum), "Sovereignty, Security and Prosperity: Indonesia and the UN Convention on the Law of the Sea," "UNCLOS 40th Anniversary Series – Why UNCLOS Matters," https://fulcrum.sg/article/why-unclos-https://fulcrum.sg/article/why-unclos-matters/sovereignty-security-and-prosperity-indonesia-and-the-un-convention-on-the-law-of-the-sea/, accessed 7 November 2026. accessed 7 November 2026.

53 and 54). Indonesia ratified UNCLOS through Law No. 17 of 1985 and elaborated the regime in Law No. 6 of 1996 on Indonesian Waters and Government Regulation No. 37 of 2002.[2]

New problems arise from technology that the drafters of the Convention could not have imagined. According to an article by the Blue Security programme published with Fulcrum, in the last two years at least five UUVs, mostly Chinese research vehicles, have been found in Indonesian archipelagic waters, and the legal status of such vehicles is unclear.[3] The most recently reported discovery occurred near Lombok. Some analysts say the object was fitted with underwater sensors, sonar, and an acoustic current profiler. However, whether it was moving within ALKI II or outside the lane, what its activity was, and which state is responsible, remain unconfirmed.[4] In this article the case is treated as an illustration of the problem, not as an established fact.

B. Research Questions

1. What is the legal status of ALKI under UNCLOS 1982 and Indonesian national law?
2. What is the legal classification of foreign UUVs under UNCLOS 1982, and what are Indonesia's authority and legal remedies in addressing the operation of such UUVs in archipelagic waters and ALKI?

C. Research Method

This research is normative juridical in nature. Primary legal materials include UNCLOS 1982, IMO Resolution MSC.72(69), and Indonesian legislation. Secondary legal materials include academic publications and expert analyses obtained through online research on 7 November 2026. The analysis is qualitative-descriptive, applying grammatical and systematic interpretation to the articles of UNCLOS.

II. LEGAL FRAMEWORK OF ALKI AND THE PASSAGE REGIMES IN UNCLOS

A. Passage Regimes in Archipelagic Waters

UNCLOS provides two passage regimes that apply in archipelagic waters. First, ships of all states enjoy the right of innocent passage through archipelagic waters (Article 52(1)). Second, ships and aircraft of all states enjoy the right of ASLP through sea lanes and air routes designated by the archipelagic state (Article 53(2)). ASLP is defined as the exercise of the rights of navigation and overflight in the normal mode solely for the purpose of continuous, expeditious, and unobstructed transit (Article 53(3)). Article 54 applies Articles 39, 40, 42, and 44 mutatis mutandis, including the duty not to engage in activities beyond the normal modes of transit and the prohibition on research or survey without authorization. The archipelagic state also may not hamper or suspend the right of ASLP.[5]

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[2] United Nations Convention on the Law of the Sea 1982 (UNCLOS), Articles 46–54; Law No. 17 of 1985 on the Ratification of UNCLOS; Law No. 6 of 1996 on Indonesian Waters; Government Regulation No. 37 of 2002,https://peraturan.go.id/files/PP37-2002.pdf

[3] Blue Security Programme (in collaboration with Fulcrum), "Sovereignty, Security and Prosperity," *op. cit*. (note 1).

[4] Maritime Executive, "Indonesia Discovered a Subsea Spy Drone. Is it Legally a Ship?,"https://maritime-executive.com/editorials/indonesia-discovered-a-subsea-spy-drone-is-it-legally-a-ship, accessed 7 November 2026.

[5] UNCLOS 1982, Articles 52, 53, and 54; see also Article 44, applied *mutatis mutandis* by Article 54.

Several key provisions can be summarized as follows :

Provision	Main content
Article 49	Sovereignty of the archipelagic state over archipelagic waters
Article 53 (1), (4), (5)	The archipelagic state may designate lanes that include all normal passage routes used for international navigation, defined by axis lines
Article 53(9)	Proposed lanes are submitted to the competent international organization (the IMO) for adoption
Article 53(12)	If lanes are not designated, ASLP may be exercised through routes normally used for international navigation
Article 54	Articles 39, 40, 42, and 44 apply *mutatis mutandis*

B. Designation of ALKI: Process and Partial Nature

Indonesia submitted a proposal for three lanes to the IMO in May 1996. After objections from several maritime states, including Australia and the United States, the IMO characterized the proposal as a partial designation.[6] Through Resolution MSC.72(69) of 19 May 1998, the IMO Maritime Safety Committee adopted a partial system of archipelagic sea lanes in Indonesian archipelagic waters.[7] Indonesia subsequently established it in Government Regulation No. 37 of 2002,[8] and according to an IMO circular, the lanes became effective on 28 December 2002.[9]

The three ALKI lanes run north–south. ALKI I crosses the South China Sea, the Karimata Strait, and the Sunda Strait. ALKI II crosses the Celebes Sea, the Makassar Strait, the Flores Sea, and the Lombok Strait. ALKI III has several branches passing through the Pacific Ocean, the Maluku Sea, the Banda Sea, and the Ombai Strait.[10] Indonesia has not designated an east west route.[11]

C. Implications of the Partial Designation

Views differ on the consequences of this partial nature. According to an analysis in Semaphore, published by the Sea Power Centre – Australia, Indonesia itself affirms that its designation is only partial and acknowledges the right of ASLP along normal routes of international navigation that have not been designated, whereas Article 15 of Government Regulation 37/2002 limits the exercise of ASLP to the routes designated in that regulation.[12] There is therefore a tension between the national norm and Indonesia's position in international fora. The IMO itself has

[6] Wawasan Nusantara (Archipelagic Concept), GlobalSecurity.org,https://www.globalsecurity.org/military/world/indonesia/archipelagic-concept.htm, accessed 7 November 2026.
[7] International Maritime Organization, Resolution MSC.72(69), "Adoption, Designation and Substitution of Archipelagic Sea Lanes," 19 May 1998, https://wwwcdn.imo.org/localresources/en/KnowledgeCentre/IndexofIMOResolutions/MSCResolutions/MSC.72(69).pdf.
[8] Government Regulation No. 37 of 2002 on the Rights and Obligations of Foreign Ships and Aircraft in Exercising the Right of Archipelagic Sea Lanes Passage through Designated Archipelagic Sea Lanes,https://peraturan.go.id/files/PP37-2002.pdf.
[9] IMO, SN circular on the implementation of Indonesia's archipelagic sea lanes, copy at, https://transportstyrelsen.se/globalassets/global/sjofart/dokument/sjotrafik_dok/imo_sn_cirkular.pdf
[10] IMO, Resolution MSC.72(69), *op. cit.* (note 7), Annex, Parts I–III.
[11] Blue Security Programme (in collaboration with Fulcrum), *op. cit.* (note 1); see also "Regulating Aircraft Passages in Archipelagic Sea Lanes: Is Indonesia Go Beyond UNCLOS?," Cambridge Core Blog,https://www.cambridge.org/core/blog/?p=55650
[12] "Indonesian Archipelagic Sea Lanes," *Semaphore*, Sea Power Centre – Australia,https://seapower.navy.gov.au/node/3411

stated that it retains jurisdiction over the adoption process until all normal routes have been adopted.[13] On the other hand, an analysis by AMTI CSIS argues that the notion of "partial adoption" is problematic and considers that the designation of ALKI I, II, and III has satisfied Indonesia's obligation to facilitate international transit.[14] The author considers that this difference does not alter the following core conclusions.

First, the ASLP right derives from UNCLOS, not from the designation of ALKI. ALKI merely channels that right. Second, ALKI remains part of archipelagic waters under Indonesian sovereignty, not the high seas or the exclusive economic zone. Third, as long as the designation remains partial, the question of where exactly ASLP may be exercised outside the three lanes is a source of interpretive dispute, and this directly affects how UUVs found outside the lane axis lines are handled.

III. DISCUSSION

A. Classification of UUVs: Are They "Ships"?

The rights of innocent passage and ASLP in UNCLOS are granted to "ships." The problem is that UNCLOS does not define the term. The rules on innocent passage actually reveal the drafters' assumption that a ship is a vessel that navigates on the surface, flies a flag, complies with collision regulations, and obeys the laws of the coastal state and designated sea lanes.[15] Dita Liliansa of the Centre for International Law, National University of Singapore, notes that UNCLOS defines only warships (Article 29) and uses the terms "ship" and "underwater vehicle" without clarifying their relationship.[16]

Robert Beckman sets out a series of questions that must be answered: whether a UUV is a ship entitled to innocent passage (Articles 17 and 52); whether it must fly its flag and follow sea lanes and traffic separation schemes (Articles 20, 22, and 52); whether it is a "submarine or other underwater vehicle" that may transit in its normal mode, namely submerged (Articles 20, 39(1)(c), and 54); and whether it is a warship or a non-commercial government ship entitled to immunity (Article 29).[17] Based on these questions, the classification of UUVs can be mapped as follows.

First, a UUV may be classified as a ship, as major maritime powers that recognize UUVs as ships maintain[18] as a consequence, the UUV is entitled to innocent passage and ASLP, but is bound by the conditions of passage. Second, a UUV may be regarded as an underwater vehicle in normal mode under Articles 20, 39(1)(c), and 54, so that it may remain submerged during ASLP, but outside the lanes, in innocent passage, it must navigate on the surface and show its flag (Article 20). Third, a UUV may be regarded not as a ship but as scientific equipment or an installation under Article 258, so that it is subject to the same conditions as marine scientific research and requires consent in waters under sovereignty. Fourth, a UUV may be classified as

[13] *Ibid.*, citing the statement of the IMO Maritime Safety Committee on continuing jurisdiction.
[14] "Reassessing the Legal Grounds of Freedom of Navigation in Indonesia's Archipelagic Waters," Asia Maritime Transparency Initiative (CSIS),https://amti.csis.org/reassessing-https://amti.csis.org/reassessing-the-legal-grounds-of-freedom-of-navigation-in-indonesias-archipelagic-waters
[15] Maritime Executive, *op. cit.* (note 4).
[16] Dita Liliansa, "Unmanned Underwater Vehicles: Enablers or Disruptors of the Peaceful Uses of the Sea?," presentation, Centre for International Law, National University of Singapore,https://cil.nus.edu.sg/wp-content/uploads/2025/12/Dita-Liliansa-Unmanned-Underwater-Vehicle.pdf.
[17] Robert Beckman, "Unmanned Naval Craft and Passage Regimes in 1982 UNCLOS," presentation, Blue Security Joint Seminar on Maritime Security Challenges in Southeast Asia, NUS Centre for International Law, 25 May 2023,https://cil.nus.edu.sg/wp-content/uploads/2023/05/Prof-Beckman-Presentation-Slides.pdf.
[18] Maritime Executive, *op. cit.* (note 4); Lowy Institute, *The Interpreter*, "No Flag, No Crew, No Rights: What Indonesia Can Legally Do About the Lombok Drone,"https://www.lowyinstitute.org/the-interpreter/no-flag-no-crew-no-rights-what-indonesia-can-legally-do-about-lombok-drone

a warship under Article 29, which requires a commissioned officer in command and a military crew, so that an unmanned UUV most likely does not qualify.[19] Fifth, a UUV may be regarded as a non-commercial government ship under Article 32, which grants it immunity from the jurisdiction of the coastal state.[20]

An article in The Strategist (ASPI) adds that the definition of a warship dates from the late nineteenth century, when it served to distinguish warships from privateers, and is now reflected in Article 29 of UNCLOS; if an unmanned vehicle is a ship, immunity applies to both warships and non-commercial government ships.[21] The consequence is important: if Indonesia rejects the classification of UUVs as ships, that position would conflict with major powers that recognize UUVs as ships.[22]

Author's analysis. Indonesia faces a strategic dilemma. Declaring that UUVs are not ships provides a strong basis for denying ASLP and innocent passage to such vehicles, but creates a risk of reciprocity for Indonesia's own UUVs in the waters of other states. Accepting UUVs as ships binds them to all the obligations of ships, which can itself serve as a basis for enforcement because UUVs generally cannot satisfy those obligations (for example, surfacing and flying a flag outside ALKI). The second position appears more consistent with practice and less risky, but still requires official clarification.

B. UUV Activities: Research, Survey, and the Normal Mode.

Regardless of classification, the activity of a UUV determines whether its passage is lawful. Innocent passage loses its innocent character if a ship conducts research or survey, or any other activity not having a direct bearing on passage (Article 19(2)(j) and (k)), and the same prohibition applies to ASLP through Articles 40 and 54.[23] Article 19(2)(c) also prohibits acts aimed at collecting information to the prejudice of the defense and security of the coastal state. In sea areas under sovereignty, marine scientific research requires the consent of the coastal state (Article 245).

The technical characteristics of UUVs reinforce this concern. Beckman notes that gliders and similar vehicles are used by navies because the data they collect can enhance the ability of submarines and surface combatants to operate in those waters, giving them strategic implications.[24] A vehicle that collects water-column data and moves slowly cannot easily satisfy the requirement of continuous and expeditious transit (Article 53(3)). In the reported Lombok case, the equipment of the object was said to point to underwater survey activity, and police stated that its characteristics are commonly found in observation or survey equipment.[25] These facts still need to be verified through an official investigation.

The location of discovery is equally important. If a UUV is within an ALKI lane, it may remain submerged in its normal mode, but it is still prohibited from conducting research or survey. If it is outside the lane, the applicable regime becomes more complicated: Indonesia may argue that only innocent passage applies, so that the UUV must surface and show its flag, while user states may argue that ASLP still applies along normal routes that have not been designated (Article 53(12)). The analysis in The Interpreter (Lowy Institute) also highlights that the first

[19] UNCLOS 1982, Article 29; Maritime Executive, *op. cit.* (note 4).
[20] "How Should the Law Treat Underwater Maritime Autonomous Vehicles?," *The Strategist*, Australian Strategic Policy Institute, 4 May 2023,https://www.aspistrategist.org.au/how-should-the-law-treat-underwater-maritime-autonomous-vehicles/
[21] "How Should the Law Treat Underwater Maritime Autonomous Vehicles?," *The Strategist*, *op. cit.* (note 20).
[22] Lowy Institute, *op. cit.* (note 18).
[23] UNCLOS 1982, Articles 19, 40, and 54; Maritime Executive, *op. cit.* (note 4).
[24] Beckman, *op. cit.* (note 17).
[25] Maritime Executive, *op. cit.* (note 4).

question in the Lombok case is which passage regime applies.[26] It should also be noted that the ASLP right cannot be suspended by the archipelagic state, unlike innocent passage, which may be suspended in specified areas on security grounds.[27]

C. Indonesia's Authority and Legal Remedies

Indonesia's authority depends on the regime that applies. In innocent passage, the coastal state may take the necessary steps to prevent passage that is not innocent (Article 25(1)) and may adopt regulations concerning, among other things, scientific research and hydrographic surveys (Article 21(1)(g)). If a UUV is classified as a ship and its passage is judged not innocent, Indonesia's options, as described by the Lowy Institute, narrow to requiring the vehicle to leave the waters (or, because it is unmanned, returning it to the flag state) and holding the flag state responsible for any loss or damage.[28] If the UUV is a government-owned vehicle, Articles 30 and 31 of UNCLOS provide a basis for requiring a warship that does not comply with the coastal state's laws to leave the territorial sea and for establishing flag state responsibility, while Article 32 provides immunity.

The greatest obstacle is attribution. A vehicle that is flagless, unmanned, and unable to communicate makes it difficult to determine the flag state and to establish responsibility. The Lowy analysis stresses that UNCLOS categories were not designed for unmanned vehicles that are hard to see, identify, and communicate with, and that the object found by fishers off Lombok may not be the only one.[29] Detection and monitoring capability is therefore itself part of the legal problem.[30]

At the national level, the framework of Law 6/1996, Government Regulation 36/2002, and Government Regulation 37/2002 was drafted on the assumption of manned ships and aircraft, as in UNCLOS. Based on the author's analysis, no norm that explicitly regulates unmanned vehicles is apparent, so there is a legal gap that needs to be confirmed through further review of the regulations.

D. The Armed Conflict Dimension

The problem widens when an unmanned vehicle is a weapon. According to the Lieber Institute (West Point), UNCLOS grants the ASLP right to "ships and aircraft," even warships of belligerents, but is silent on the transit of lethal drones or expendable unmanned sea craft; if classified as weapons, such vehicles fall outside UNCLOS protection and their use of ALKI could violate neutrality.[31] Pornomo Rovan Astri Yoga argues in The Jakarta Post that missiles and munitions have no such right of passage, and asks whether Indonesia needs to determine its position on kamikaze drones.[32] This issue shows that the interpretation of UNCLOS needs to be supplemented, whether through evolutive interpretation or agreement among states.

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[26] Lowy Institute, *op. cit.* (note 18).
[27] RSIS, "A Response to Arif Havas Oegroseno,"https://rsis.edu.sg/rsis-publication/rsis/a-response-to-arif-havas-oegroseno/, accessed 7 November 2026; UNCLOS 1982, Article 44 in conjunction with Article 54.
[28] Lowy Institute, *op. cit.* (note 18).
[29] *Ibid.*
[30] Liliansa, *op. cit.* (note 16), who identifies detection and monitoring as part of the UUV problem.
[31] "When Belligerent Drones Knock on Neutral Waters: Archipelagic Sea Lanes in the Age of Kamikaze Systems," Lieber Institute, United States Military Academy West Point,https://lieber.westpoint.edu/when-belligerent-drones-knock-neutral-waters-archipelagic-sea-lanes-age-kamikaze-systems/.
[32] Pornomo Rovan Astri Yoga, "Can Kamikaze Drones Claim the Right of Sea Lane Passage?," *The Jakarta Post*, 29 August 2025,https://www.thejakartapost.com/opinion/2025/08/29/can-kamikaze-drones-claim-the-right-of-sea-lane-passage.

E. Policy Recommendations

Based on the analysis above, the author proposes the following recommendations.

1. National regulation. Draft provisions that explicitly regulate unmanned vehicles (aerial, surface, and underwater) in Indonesian waters, including requirements for notification, identification, and research permits.
2. Clarification of the legal position. Establish an official position on whether UUVs are regarded as ships, taking the risk of reciprocity into account, and communicate it consistently in bilateral diplomacy and multilateral fora.
3. Resolving the interpretation of ALKI. Carefully consider aligning Article 15 of Government Regulation 37/2002 with Indonesia's position at the IMO on the partial nature of the designation, as well as the implications of proposing an east–west route.
4. Detection and law enforcement capacity. Strengthen underwater monitoring by the Indonesian Navy and the Maritime Security Agency (Bakamla), as well as procedures for securing UUV finds as evidence.
5. Collective diplomacy. Promote discussion at the IMO and through regional cooperation (ASEAN) to clarify the status of UUVs within the UNCLOS passage regimes.

IV. CONCLUSION

A. Conclusions

First research question. ALKI is a mechanism for exercising the right of archipelagic sea lanes passage (ASLP) under Article 53 of UNCLOS, and that right derives from UNCLOS, not from the designation of ALKI. ALKI remains under Indonesian sovereignty as part of archipelagic waters. Its designation is only partial, through IMO Resolution MSC.72(69) and Government Regulation No. 37 of 2002, so differences of interpretation remain regarding routes outside the three lanes, including the tension between Article 15 of Government Regulation 37/2002 and Indonesia's position at the IMO.

Second research question. UNCLOS does not define "ship," so the status of foreign UUVs remains open and they may be classified as ships, underwater vehicles, scientific equipment, or government ships, with different legal consequences. Whatever the classification, research and survey by UUVs during passage are prohibited under Articles 19(2)(j), 40, and 54. Indonesia's authority depends on the passage regime that applies (Articles 25, 30, and 31), but its exercise is hampered by the difficulty of proving the activity and attributing it to a flag state, and by the absence of national norms that explicitly regulate unmanned vehicles.

B. Recommendations

With regard to the first research question, the government is advised to consider aligning Article 15 of Government Regulation 37/2002 with Indonesia's position at the IMO on the partial nature of the ALKI designation. With regard to the second research question, the government is advised to draft specific regulation for unmanned vehicles, clarify its legal position on the status of UUVs, and strengthen detection capacity and diplomacy at the IMO and ASEAN. Future researchers are advised to examine the practice of other states and Indonesia's implementing regulations in greater depth.

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