New Consensus on Archipelagic Sea Lane Passage Regime over Marine Protected Areas: Study Case on Indonesian Waters

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Abstract

Indonesia's Archipelagic Sea Lanes (ASLs) is the routes of navigation that used to pass through the archipelagic waters and territorial sea of Indonesia. Every state has the right of ASL's passage. As it is set out in the United Nations Law of the Sea Convention 1982, every foreign ship passes the ASLs is using the normal mode and unobstructed navigation. As the protection to the marine environment is growing, the practice of normal modes and unobstructed navigation will no longer the same. The fact that Indonesia's ASLs is overlapping with the areas protected under the world Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF), Indonesia and international community have a common responsibility to protect and conserve such areas while maintaining the right of ASLs at the same time. This study concludes that concept of normal mode and the unobtructive passage is irrelevant for today because the impact of the establishment of the CTI-CFF should follow by special treatment for international navigation when crossing the Indonesia ASL's area. This special treatment is imperative because of ship speed, machine, ship propulsion, sea flow, junk ship will damage ecosystem of coral reefs and potentially to disrupt sensor of highly migratory fish like whale and dolphin. Therefore, it is argued that new consensus and code of conduct for right of Indonesia ASLs passage is required to facilitate both of international interests.

Keyword: New Consensus, Indonesia's Archipelagic Sea Lane, Marine Protected Areas.

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Introduction

The long history of the establishment of United Nation Law of the Sea 1982 (LOSC) has established various forms of state seeing from a geographical point of view (Lestari, 2012). One form of state recognized after the establishment of the LOCS is an archipelagic state. It is said that an archipelagic state means a State constituted wholly by one or more archipelagos and may include other islands (art. 46, LOSC 1982). The sovereignty of the archipelagic state covers the entire sea regions of 12 miles from the baseline. However, recognition of the sovereignty of the marine territory by the LOSC does not necessarily eliminate the navigation rights of other countries that had existed long before the LOSC 1982 was established. In article 53 of LOSC, states that all ships and aircraft enjoy the right of Archipelagic Sea Line Passage (right of ASLP) in the waters of the archipelagic state, and on the other hand, the archipelagic state has the right to designate or not designate the existing sea lanes and air route. The privilege of the right of this archipelagic sea lanes passage is continous and rapid as the foreign ships and aircraft pass and/or through the archipelagic sea lanes in the territorial waters of the archipelago and the territorial sea of the archipelagic state without impairing its sovereignty.

Currently, there are 22 states in the world who claim to be an archipelagic state (UN Table of claims to maritime jurisdiction, 2011),² However, only Indonesia has designated Archipelagic Sea Lines/ASL. Archipelagic sea lanes passage (LOSC art. 53 (3)) means: the exercise in accordance with this Convention of the rights of navigation and over flight in the normal mode solely for the purpose of continuous, expeditious and unobstructed transit between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone.

There are 3 Indonesian archipelagic sea lanes connecting the sea/ocean in the north with the sea/ocean in the south of Indonesia, in accordance with Government Regulation of 2002, which includes:

- 1. Archipelagic Sea Lanes I, connecting the South China Sea Natuna Sea Karimata Strait Sunda Strait Hindia Ocean and vice versa. ASL's I A connecting Singapore strait passing Natuna Sea or vice versa.
- 2. Archipelagic Sea Lanes II, connecting Celebes Sea Makassar Strait Flores Sea Lombok Strait Hindia Ocean and vice versa.
- 3. Archipelagic Sea Lanes III A, consisting of four branches:
 - a.) ASL's III B is connecting Pacific Ocean and Hindia Ocean, through Moluccas Sea, Seram Sea, Banda Sea and Leti Strait and vice versa.
 - b.) ASL's III C is connecting Pacific Ocean and Arafura Sea, through Moluccas Sea, Seram Sea and Banda Sea and vice versa.

¹ There are 4 types of state according to LOSC 1982, coastal states, closed states, archipelagic states, and geographically disadventages states, *see also* Maria Maya Lestari, *Negara Kepulauan Dalam Konteks Zonasi Hukum Laut*, *Jurnal Ilmu Hukum Yustitia*, Vol. 19 Number 2 (July-December) 2012, p. 188 (no internet access).

¹ United Nation, Table of claims to maritime jurisdiction (as at 15 July 2011), available at http://www.un.org/depts/los/LEGISLATIONANDTREATIES/PDFFILES/tablesummary ofclaims.pdf

- c.) ASL's III D is connecting Pasific Ocean and Hindia Ocean, through Moluccas Sea, Seram Sea, Banda Sea, Ombai Strait, Savu Sea and vice versa.
- d.) ASL's III E is connecting Hindia Ocean to Celebes Sea or vice versa, through Savu Sea, Ombai Strait, Banda Sea, Seram Sea and Moluccas or; Navigation from Timor Sea to Celebes Sea through Leti Strait, Banda Sea, Seram Sea, and Moluccas Sea, or; Navigation from Arafuru Sea to Celebes Sea or vice versa, through Banda Sea, Seram Sea, Moluccas Sea.



Figure 1: Indonesia's ASL; Made by Andi Arsana, accessed at https://madeandi.com/2015/12/09/alurlaut-kepulauan-indonesia-alias-alki-barang-apalagi-ini/

Historically, as with LOSC 1982, the designation of Indonesia's archipelagic sea lanes (Indonesia ASL) is also the result of concensus (Barry Buzan, 1981). This consensus is between Indonesia with the user states (America and Australia) and IMO/International Maritime Organization as the official maritime organization. This consensus concerning the Indonesia's archipelagic sea lanes resulted in the agreement on the designation of 3 ASL's in Indonesia (as described earlier) on May 19, 1998. In addition, this agreement also produced 19 Rules of Archipelagic Sealine Passage (Leonard C. Bastian et.all, 2014; and Dhiana Puspitawati, 2005). These rules regulate the safety procedures of shipping, rights and obligations, normal mode, unobstructed, navigable route that allowed, military navigation, aircraft passing and marine protected, etc (19 Rule's Indonesia ASL's, 1988). As for the safety of shipping and environment is the obligation of both parties (archipelagic state and shipping user state) to take precaution and prevent all marine populations caused by the various ship and shipping activities.

Recently, the consideration is the rapid development and research on the marine environment, even the results of research have shown that Indonesia is one area of Coral Triangle World. This means that Indonesia's marrine territories are regions rich in biodiversity and complex ecosystem (Alan T. White,et.all. 2014:). As the center of world marine biodiversity, Indonesian sea will support the world's food reserves coming from the sea (Brian W. Bowen, at.al, 2013). In 2009 in Manado, six countries which are Indonesia, Malaysia, Philippines, Timor Leste, Papua New Guinea and Solomon Island have announced and initiated the establishment of Coral Triangle Initiative Food and Fisheries/CTI-FF). Manado Declaration is the result of a monumental collaboration in the field of marine protection, and in accordance with

the Montreal Protocol (1987), Rio de Janeiro Declaration (1992), Kyoto Protocol (1997-1999), Johannesburg Declaration (2002) and Bali Roadmap (2007), because it is focused on regional marine protected areas (Ministry of State Secretariat RI, 2009).

Almost half of the Indonesian marrine territory has been designated as CTI-FF, especially the eastern seas of Indonesia. To support CTI-FF programe, the Minister of Marine Affairs and Fisheries of Indonesia (2009) has designated Marine Protected Areas (MPA) consisting of three criteria, these criteria are ecology, socio-culture, and economic. By these criteria, it will be determined 4 types of Marine Protected Areas, they are:

- 1. National Park,
- 2. Marine Nature Reserve,
- 3. Nature recreation Park
- 4. Fisheries Asylums

Each marine conservation area will have distinctive features, uniqueness, and differences, such as coral reefs, seagrass beds, or marine mammal glow areas such as whales, sharks and turtles (WWF-Indonesia, 2014). The Indonesian government has planned 20 million MPAs by 2020. Broadly speaking, there are currently 18 ecoregions and 9 of them are adjacent and overlapping with ASLs such as:

- 1. Ecoregion 4 of Natuna Sea has 2 MPAs,
- 2. Ecoregion 5 of Karimata Strait has 7 MPAs,
- 3. Ecoregion 6 of Java Sea has 12 MPAs,
- 4. Ecoregion 7 of Celebes Sea has 7 MPAs,
- 5. Ecoregion 8 of Makassar Strait has 8 MPAs,
- 6. Ecoregion 9 of Bali Water's and Nusa Tenggara has 19 MPAs,
- 7. Ecoregion 11 of Halmahera sea has 6 MPAs,
- 8. Ecoregion 12 of Banda Sea site Celebes north has 4 MPAs,
- 9. Ecoregion 15 of Banda Sea has 4 MPAs

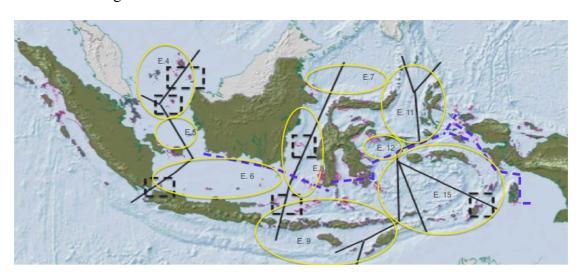


Figure 2: ASL's nearest Ecoregion, Turtle routes, Coral Spread; Modified from Minister of Marine and Fisheries of Indonesia, 2013

Some regions such as Region E.9 (see figure 2) in Savu Sea, are places for feeding, hatchery and cross-border areas (Benyamin Khan, 2006; John Prickrell, 2016). In addition, in certain seasons, the Savu sea is a crossing area, where it glows and whale mating takes place, so that mating whales gather around this sea for a certain season. The waters of Indonesia are always hot and rich food sources making it a favourite area for cetaceans to forage (Benjamin Khan, 2014). Savu Sea is special. According to the ecological ecosystem of the environment, Savu is essential for large marine cetaceans, such as blue whales, Bryde and sperm whales (Benyamin Khan, 2006). In certain seasons, the Savu Sea is a trajectory area and the sea is like the lake where they pass to transit so that they will mate and spawn. In particular season, whales will mate and gather around this sea. This condition is supported by the geographical condition of Indonesian waters that are always hot, rich in food sources and making it a favorite area for cetaceans to forage (Benjamin Khan, 2014).

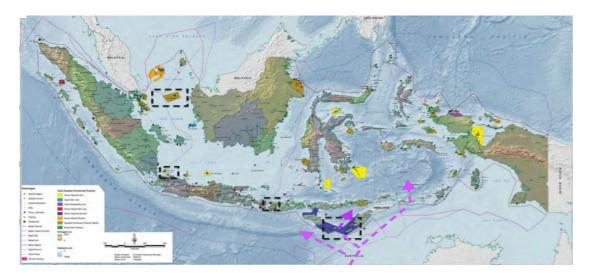


Figure 3: Whales route and feeding and MPA are nearest or overlapping with ASL; Modified from Indonesia's Marine and Fisheries Minister, 2013 and John Pickrell, 2016.

Based on the recent research, it is found the fact that basically, there are many sources of sound under the sea coming from various sources of natural sounds of marine environment, such as mammal communication voices, undersea volcanoes, etc (G. Carleton Ray and Jerry Mc Cormick-Ray, 2014). This condition is further exacerbated by long-term sources of sound pollution that exist as a result of human activities such as offshore drilling and shipping (G. Carleton Ray and Jerry Mc Cormick-Ray, 2014; Benyamin Khan, 2014). This paper will examine how to maintain the relationship between ecoregional interests and ASL.

What are Normal Mode and Unobstrusive Passage?

Article 53 LOSC 1982 has set out on the right of foreign shipping to pass through the archipelagic sea lanes. It its the right of archipelagic states to designate or not to designate the sea lane to be used as an international navigation lane. As an international shipping and flight route, any foreign ship will inevitably cross the waters of the archipelago and territorial sea in the archipelagic state, on an ongoing basis, directly and immediately without any constraint between one part of the high seas or the exclusive economic zone of the high seas or other exclusive economic

zones as the basic concept of archipelagic sea lane rights. Consequently, the archipelagic sea lane regime was born as a new regime and special navigation in the context of international shipping.

Archipelagic sea line passage is a special regime on navigation, because there is a normal mode and unobstructed concept for all user states. Normal mode is a shipping concept where any ship or submarine can make a normal shipping, such as the example of a submarine that is allowed to sail normally by diving when crossing the ASL without necessarily presenting to surface water as well as the warship with the plane accompanied. Before any regulation about this, normal mode is usually used on the high seas where all ships are sailing normally. This is what distinguishes the concept of innocents passage that the ships can not sail freely according to the procedures, in the sense that such a submarine must appear on the surface as it passes using the right of innocent passage.

Meanwhile, unconstructive passage is a shipping free of any obstacles, restrictions, and limitations when passing the archipelagic sea lanes, even there shall be no suspension or discrimination against any passing ship (art. 53, LOSC). Unlike the right of innocent passage, the archipelagic state may stop or delay all navigations for some reasons.

The Impact of Navigation for Marine Environment

As a country located at the intersection of the world's shipping, the Indonesia's sea lanes are crossed by various types of ships such as commercial ships, fishing ships, tourist boats to warships. After ASL designation in Indonesia, every passing ship must sail by using this route and subject to the Archipelagic Sea Lane Passage regime/ASLP regime (LOSC, 1982). This regime recognizes the obstructed passage and shipping rights in a normal mode for each ship. This is what makes Indonesia's ASL to be more crowded and bussy because Indonesia's ASL is one corridor that will be passed by a ship with the ASLP right or which will pass to transit and throw anchor with its innocent passage right.

The following data is all of passages are recorded by Indonesia BIIS's Monitoring (this data does not separate the rights between ASLP and Innocent Passage.

No	Month	ASLP	ASLP	ASLP	Amount/
		1	2	3	Month
1	January	2265	1161	434	3.860
2	February	9697	5097	2424	17.218
3	March	3962	1576	877	6.415
4	April	3961	2566	1174	7.701
5	May	3172	2185	1480	6.837
6	June	3827	2254	1043	7124
7	July	2611	1434	696	4741
8	August	4739	2820	1602	9161
9	September	5229	3091	1620	9940
	Total	39.463	22.184	11.350	72.997

Figure 4: Number of Ship Monitoring by BIIS, 2016, Modified from Bakamla, 2016

The above data shows that Indonesia's ASL is crossed by ships with various cross-rights forms such as right of archipelagic sea line passage and right of innocent passage. This occurs after the Indonesian government designates the sea lines, all ships must use this lines when crossing or entering the territorial waters of Indonesia. The problem is that now all of the designated sea lanes are near and even intersecting with Marine Protected Areas (MPA's). This should be a concern, there should be special regulations governing the shipping that passes around the MPA's to prevent pollution and destruction of the MPA's due to shipping, especially shipping with the Right of Archipelagic Sea lanes Passage. Currently, Indonesia has no specific rules for shipping in the sensitive areas, and there is no new consensus between Indonesia and IMO on how to regulate ships passing by right of ASLP. Unlike the case with shipping using the right of innoncent passage, the government may enact national regulations to prohibit, delay or limit the speed and shipping procedures.

Shipping activities can increase sea pollution around the designated sea lanes. According to Benyamin Khan (2015), in the general shipping activities, there are several possible risks of accidents that may occur, such as:

- 1. Accidental collosions at sea
- 2. Accidental wreckage on islands (reefs)
- 3. New port development support infrastructure
- 4. Marine pollution from bilge and ballast waters
- 5. Exhaust emission (sulfur loading)
- 6. Direct strikes (whales)
- 7. Noise pollution

Basically, the ship can also be a source of pollution for the marine environment. One example is when the ship sails, the ship can still cause pollution even though the ship does not dump something into the sea or there is no accident, but it still pollute the sea in the form of noise pollution. Based on the interview with Sunaryo³, he argues that basically the ship itself can cause some forms of pollution and destruction of the environment, such as:

- 1. Machine can cause noise pollution coming from the propeller and boat engines
- 2. Ship speed can cause turbidity in seabed and noise pollution (the ship's speed will affect the noise level)
- 3. The heat generated by cooling machine on ship engines (especially large vessels)
- 4. Ship propulsion can cause sea flow and make impact of "bald" corals along the routes of navigation
- 5. Collision with marine mammals
- 6. Junk ship quietly

The current obvious issue is the noise pollution caused by shipping, the noise due to shipping activities can lead to frequency interference of marine mammals that may threaten them while passing or foraging so that it will be a threat to the food chain and marine ecosystems. Noise pollution from ship navigation may interfere with

³ Interview with Ass. Prof. Ir. Sunaryo Ph.D. MRINA. FIMarEST. IPU, scientist from Indonesia Maritime Center, on Mar, 2017

mammalian sonar frequencies. Some marine mammal species such as whales and dolphins are very sensitive to noise levels, even noise can disrupt their navigation systems used for navigation, foraging, communications, or generate clicks for prey echolocation and the environment (Andrew J. Wright for WWF, 2014). Blue whales (*Balaenoptera musculus*) produce sounds usually around or below 20 Hz that are often below the range of human hearing, while dolphin harbor (*Phocoena phocoena*) produces clicks at a frequency of about 140 kHz (Andrew J. Wright for WWF, 2014; G. Carleton Ray and Jerry McCormick-Ray, 2014). When the sound produced by the ship is in the same range (overlapping) with the frequency of marine mammals, the sound may cause noise pollution resulting in disruption of the ability of marine mammal sensors to swim (Andrew J. Wright for WWF, 2014; G Carleton Ray and Jerry McCormick-Ray, 2014). Ideally, today it requires new new technology, new regulations and new obligations regarding the speed of the ship so that sound produced does not interfere with the frequency range of marine mammals (Andrew J. Wright untuk WWF, 2014).

Different areas of MPA's may require different handling for reef-rich marine areas. The importance of precautions againts possible ship collisions, oil spills, and throwing anchor around the MPA's are indispensable. The cause of the impact of navigation accidents is unpredictable, the impact of loss in MPA area is greater than the non-MPA area, it has potential risks and takes longer to recover (Davit Freestone dan Ellen Hey, 1996). This impact is not only for Indonesia, but generally may also affect on the ecosystems and species of deep-sea fish that pass through and transit at Indonesian seas. Because MPA Indonesia is the point of production and distribution of nutrients to the surrounding marine ecosystems, if these are damaged and polluted, then it will disrupt the ecology of the world's fisheries that may have an impact on the stability of the world's seafood chain.

New Consensus on Indonesia's ALS

The overlapping areas between MPA's and ASL's require policy, goodwill and a desire to maintain its sustainability. Although ASL is designated earlier than MPA, but with the spirit of environmental protection, environmental protection must remain a priority. Implementation of precautionary principles in this case is to be applicable to all shipping in Indonesia ASL's. In Chapter XII, Section 5 explains that all international rules and national laws should Prevent, Reduce and Control Pollution from all sources of marine pollution, mainly due to ship pollution. In the case of the application of ASLP rights in Indonesia's ASL, all international shipping must be carried out under a new code of conduct which is in accordance with MPA's sensitive condition.

This shipping code of ethics and sensitive marine condition of Indonesia should be immediately informed and discussed to the International Maritime Organization / IMO and user states enter new research data and privileges of Indonesian MPA. Based on Article 211 (1) that "rules and standards shall, in the the same manner, be re-examined from time to time as necessary". This means that if new research finds that the nearest Indonesian ASL overlaps with MPA protection interests, then the old rules can be reviewed. There is no exception with normal mode and unconstructive concept in Indonesia's ASL, the concepts can also be reviewed for the sake of environmental protection. As well as article 210 of LOSC that "Dumping" also

"...regulate standars and recommendation practices and procedures to prevent, reduce and control such pollution......shall be re-examined from time to time as necessary".

For the sake of sustainability of the marine environment and green navigation, the review and nullification of normal mode and unconstructive passage concepts can be applied without having to change the LOSC article and without closing ALS for one protected marine interest. Both of these can work together, in a new consensus between Indonesia, user states and IMO to change or add new articles to the 19 Rules of Archipelagic Sea Line Passage (19 Rules ASLP) in Indonesia, as a special rule. What is 19 Rules of Indonesian ASLP? This is a special regulation that must be obeyed and apply when ships and aircraft passing through Indonesia's ASL. Like LOSC, Indonesian 19 Rules can also be changed and revised to generate a new consensus within the sensitive ASL's areas (Dhiana Puspitawati, 2005; Leonard C. Sebastian et.al, 2014). By law, 19 Rules is a special regulation / lex specialis for all shipping in Indonesia.

Currently, the concept of normal mode and unconstructive passage in ASLP are no longer relevant. Based on Article 211 of LOSC, it can be ascertained that the ship can also cause pollution so that with the support of the latest research result, the changes in the old provisions into new rules can be carried out. A new consensus is needed to prevent the impact of shipping due to the concept of normal mode and unconstructive passage on Indonesia's sensitive, adjacent or overlapping sea lanes (ASL's) with MPA's. Indonesia, User state and IMO can create a new consensus based on the spirit to protect marine. It can be conducted without having to change Article LOSC, but simply by changing 19 Rules. There are several ways that can be carried out to the concept of new 19 Rules, such as by adding articles, revising, or making new rules in 19 Rules. A better solution would be to set up a sensitive area and submitted to IMO along with a special code of ethics in accordance with international shipping in the sensitive areas (Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas).

Moreover, IMO also supports the effort to prevent marine protected areas, on December 1, 2005, IMO has revised *Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas /* PSSA. This guideline explains that: PSSA is an area that needs special protection through action by IMO because of its significance for recognized ecological, socio-economic, or scientific attributes where such attributes may be vulnerable to damage by international shipping activities. At the time of designation of a PSSA, an associated protective measure, which meets the requirements of the appropriate legal instrument establishing such measure, must have been approved or adopted by IMO to prevent, reduce, or eliminate the threat or identified vulnerability (Resolution A. 982 (24), 2005).

It is clear that IMO as an organization rezognized by LOSC recognizes and prioritizes shipping safety in order to prevent pollution and destruction or the marine environment due to shipping activities. The more specific IMO rules on the determination and sailing procedures in the MPA are set out in Resolution A.982 (24) on December 1, 2005 on "Revised Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas". This provision recognizes and legally permits each country to designate Particularly Sensitive Sea Areas (PSSA) on an international

or regional scale. This consideration is based on the importance of conservation area for the benefit of biodiversity and other fields with ecological, cultural, historical, archaeological, socio-economic or scientific significance (PSSA, 2005). In fact, PSSA has a guidance on procedures and to designate PSSA areas.

The designation of PSSA is one of the real forms of IMO support in order to protect the marine environment. Unobstructive and normal mode concepts need to be revised and renewed. Considering that between human and environmental interests must be able to go hand in hand with the concept of sustainable development. New code of ethics and special treatment for shipping in some Indonesia's ASL's which are sensitive areas should be performed immediately. There are many reef fish, endangered fish, and special ecosystems that must be protected. Considering that some of shipping impacts have proven that the ships may cause pollution and damage to the marine environment.

To prevent pollution such as noise pollution, dumping, etc. due to shipping, it is necessary to regulate the speed of the ship, for example, the Savu Sea which is the territory of whale passing. Each user state should ideally decrease the speed of ship or even be able to temporarily halt the shipping, especially when marine mammals encounter the ship during the mating season or spawning and foraging. The need for a balance between shipping and MPA's can be applied by revising 19 Rules of ASLP as a solution. This can be carried out in accordance with the mandate of Article 211 LOSC of "...probability to **re-examined** regulation base on new research to marine protection."

Conclusion

This project provides for an opportunity to gain insight into the premise that further efforts on marine studies in Indonesia should be made especially in marine areas that are rich in biodiversity and also list the features and species of protected marine mammals. Such findings might also be important because overlapping between CTI-FF areas and archipelagic sea lanes requires special treatment. All shipping should adjust with CTI-FF conditions, such as reef protection areas, the application of precautionary principles that are needed by renewing the application of normal mode and unobstructive passage concepts. Both concepts are irrelevant to some archipelagic sea lanes that are sensitive and risky to the dangers of pollution and destruction.

A new consensus is needed between Indonesia, the user states and IMO to make a new regulation on code of conduct of shipping in Indonesian ASL's without changing LOSC 1982. The method offered is to replace and add some articles in 19 Rules of ASL's. Special treatment and code of conduct for ASL's sensitive areas must be implemented immediately such as by slowing ship speed, using technology to reduce noise from ship engines, delaying shipping that will only be carried out in certain places, such as areas of mammal migrary species trajectory, etc. Those powerful ways are some solutions to prevent pollution and damage in sensitive areas etc. With some of these suggestions, it hopefully enables to prevent pollution and destruction of Indonesia's MPA.

In addition, it also requires international cooperation, good will and a common goal to create green navigation in Indonesian ASL. Lastly, it is therefore argued that the

importance of the parties' mutual will is to limit the use of normal mode and unobstructive concepts through a new consensus. The designation of PSSA in some areas will facilitate the arrangement and code of conduct of the shipping.

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