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# The Role of UNCLOS 1982 in Maintaining and Protecting the International Marine Environment

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**Abstract**

*The disposal of nuclear waste in the Sea of Japan is a complex and controversial issue where it involves aspects of international law and the international environment. Japan, as one of the largest nuclear waste-producing countries, has faced pressure to manage that waste in a way that complies with international legal principles and environmental norms. International law, such as the United Nations Convention on the Law of the Sea (UNCLOS), provides a framework for the management of marine resources, including waste disposal issues. However, the lack of clarity in international regulations regarding nuclear waste creates challenges in determining the limits of state responsibility and obligations. From an international environmental perspective, nuclear waste disposal can have long-term detrimental impacts on marine ecosystems and human health. Sustainability and sustainability of marine ecology must be a primary consideration in decisions regarding nuclear waste disposal. Meanwhile, various international conventions and agreements such as the Espoo Convention and the Aarhus Convention emphasize the importance of public participation in environmental decision-making. Therefore, the involvement of civil society in the decision process regarding the disposal of nuclear waste in the Sea of Japan is essential to ensure representation of public interests and concerns. This research aims to find out and analyze Japan's actions in dumping nuclear waste into the Pacific Ocean. The problem formulation in this research is: what is the role of UNCLOS 1982 in maintaining and protecting the international marine environment? This research was*

*written using the normative juridical research type, which includes examining legal conflicts, legal vacancies, or vague norms.*

## A. Introduction

Japan has started releasing nuclear waste originating from the Fukushima nuclear power plant into the sea near the Pacific Ocean since Thursday, August 24, 2023. The actions taken by Japan drew large protests because they were alleged to hurt the environment. [1]Despite this, the International Atomic Energy Agency (IAEA) has concluded that the impact on humans and the environment is "negligible" and that radioactive Fukushima dumping into the sea will not make it any more radioactive than it already is.[2] However, this was strongly opposed by neighboring countries such as China, which considered that Japan's actions in dumping nuclear waste into the sea were considered "selfish and irresponsible".[3]

Japan's disposal of Fukushima nuclear waste has become controversial on the international stage, this is clearly due to the pros and cons of several world scientists. Scientists think that the release of Fukushima nuclear waste is safe because tritium can be found in waters throughout the world, this is supported by an analysis from the IAEA which has analyzed that the concentration of tritium in the water released by Japan is far from the operational threshold limit of 1,500 becquerels, per liter (Bq/L). This limit is six times smaller than the drinking water limit set by the World Health Organization (WHO), namely 10,000 Bq/L for radioactive standards. However, critics as well as scientists such as Emily Hammond, an energy and environmental law expert at George Washington University, stated that "compliance with standards is meaningless if there are no consequences for the environment and humans caused by the decision." Furthermore, Robert Richmond, a marine biologist from the University of Hawaii, is concerned that Japan is unable to detect what enters the water so the radioactive and ecological impacts are ignored. Finally, the environmental group Greenpeace involving scientists at the University of South Carolina, namely Shaun Burnie, a senior nuclear specialist at Greenpeace East Asia, explained that tritium has negative effects that will occur on plants and animals that ingest tritium directly.[4]

[1] Imanudin Abdurohman , " *Why Japan Throw away Waste Nuclear to the Sea and What The impact ?"* , 2023, Source: https://tirto.id/kenapa-jepang-membuang-limbah-nuklir-ke-laut-dan-apa-dampaknya-gPrz

[2]Keane Audric, " *Exile Waste Nuclear to the Sea by Japan* " (2023), Source: https://jurnalpost.com/pembuangan-limbah-nuklir-ke-laut-oleh-jepang/58101/

[3]CNN Indonesia, " UN *Ensures Atomic Monitoring Waste Nuclear Fukhusima is Not Dangerous ",* (2023), Source: https://www.cnnindonesia.com/internasional/20230830014203-113-992133/pengawas-atom-pbb-pastikan-limbah-nuklir-fukushima-tak-berbahaya

[4]Devita Savitri, " *Pros vs Cons Opinions Waste Scientist Nuclear Japan ",* (2023), Source: https://www.detik.com/edu/detikpedia/d-6899285/pro-vs-kontra-pendapat-ilmuwan-soal-limbah-nuklir-jepang

Currently, the use of nuclear energy is increasing, mainly due to advances in science and technology. Apart from being a powerful ultimate weapon, nuclear power also has welfare benefits for mankind, Today's nuclear power has become an alternative that is attracting the interest of many countries. Nuclear energy, especially radioactive energy, has been widely used in various fields.

Such as industry, health, agriculture, animal husbandry, sterilization of pharmaceutical products and medical equipment, food preservation, and hydrology, which is an application of non-energy nuclear engineering.[5] Not only that, one of the uses of nuclear power is as a nuclear reactor better known as a Nuclear Power Plant (PLTN).[6] NPP is a type of power plant that has the advantage of producing large, stable, and of course cheaper electricity capacity. [7]According to data collected from the International Atomic Energy Agency (IAEA), Japan is listed as one of the 8th largest nuclear energy-producing countries in the world, throughout 2022 Japan has produced 51.91 terawatt-hours (TWh) of nuclear energy-based electricity.[8]

The origin of this nuclear waste disposal plan was the reactor explosion at the Fukushima nuclear power plant in 2011, and the level of nuclear contamination reached 42% in the 10 years since the construction of this giant tank to store radioactive water, now the tank is almost full, so the Japanese government take action to dispose of the radioactive water into the sea. [9]Japan's opposition to its plan to dump Fukushima's nuclear wastewater into the Pacific Ocean could pose a risk to key exports, especially seafood and cosmetics. The United Nations nuclear regulator, the International Atomic Energy Agency (IAEA), released a report supporting Japan's plan, which has caused huge controversy in Japan since it was announced two years ago, with countries including China and Hong Kong condemning the actions taken by the Japanese government. [10]Japanese researchers have researched Fukushima's radioactive water and have

(Ahdiat 2023, Abdurohman 2023, Audric 2023, Indonesia 2023, Savitri 2023, Stevanni Thalia Pandi 2023, Netty Herawati 2021, Aprilia Mawaddah 2023, Arbar 2023, Commissioner 2021)

[5] *Ibid.* 2. (Netty Herawati 2021)

[6] Stevanni Thalia Pandi, Natalia Lengkong , Kathleen Pontoh , "Review of Disposal Law Waste Nuclear At Sea According to Environmental Law International " *Lex Adminstratum* 11, no. 1 (2023).

[7]Netty Herawati, Adityo Darmawan Sudagung , " Public Perception and Potential Related *Public Acceptance* Discourse on Nuclear Power Plant Development in the Regency Benkayang ", *Journal Development Energy Nuclear* 22 , no. 2 (2021): 111.

[8]Adi Ahdiat , " Japan , Producer Country 8th Largest Electric Energy in the World", Source: https://databoks.katadata.co.id/datapublish/2023/08/31/jepang-negara-produsen-energi-nuklir-terbesar-ke-8-di-dunia

[9]Aprilia Mawaddah, Maria Maya Lestari, Ledy Diana, " Legal Analysis of Plan Disposal Waste Nuclear to the Sea After the Occurrence Earthquake and Tsunami in Japan ", *Journal Law and Constitutional Science* 1, No. 2 (2023): 93.

[10]Thea Fathanah Arbar , "List of Countries Officially Stopping Imports Japanese Seafood , RI is there?" , Source: https://www.cnbcindonesia.com/news/20230829142220-4-467123/register-negara-resmi-setop-impor-makanan-laut-jepang-ada-ri .

stated that the water has been treated through filtration to remove most radioactive elements and will not cause future contamination. However, other researchers say residual levels of tritium in treated water could pose a threat to humans and the environment for more than 100 years.[11]

In the context of nuclear waste disposal in Fukushima, Japan, UNCLOS 1982 emphasized that states must prevent or prohibit actions that are expected to cause environmental damage. The state must also evaluate every policy that has the potential to impact the environment. The precautionary principle also emphasizes that scientific uncertainty cannot be used as a reason to delay preventive action against environmental degradation.

In this case, UNCLOS 1982 has an important role in encouraging countries to take preventive action against marine pollution and environmental damage. The precautionary principle can also be applied in environmental policy to reduce risks to the environment and prevent actions that could harm the environment and human health. Therefore, UNCLOS 1982 and the precautionary principle can be an important reference in regulating state obligations in protecting the international marine environment and preventing environmental disasters that can harm the environment and human health.

## B. Discussion

Environmental problems have become an important issue for the international community, and environmental problems that occur in a country are the responsibility of the international community. The problems that arise in the region include pollution, degradation of natural resources, and global warming. [12]Therefore, environmental protection must be seen from a global perspective, where currently all countries are experiencing a healthy environmental crisis. The public first became familiar with nuclear power in the form of atomic bombs during the Second World War in 1945 when atomic bombs were detonated in Hiroshima and Nagasaki, until now the powerful influence of these atomic bombs can still be felt today.[13]

Before the 1982 UNCLOS convention, the International Maritime Organization (IMO) formed a conference on Preventing Marine Pollution by Disposal of Waste and other Materials

[11]United Nations Human Rights Office of the High Commissioner, "Japan: UN Experts Say Deeply Disappointed by Decisions to Discharge Fukhusima Water" (2021). Source: https://www.ohchr.org/en/press-releases/2021/04/japan-un-experts-say-deeply-disappointed-decision-discharge-fukushima-water?LangID=E&NewsID=27000

[12] Lathifatun Enjoy Hall, Aditya Putri Ristanti , Novianah Khalimatus Sa'diyah , Ibrahim bin Sa'id, "The Potential Impact of Japanese Nuclear Waste on Fish Organs in the Sea of Japan ", *Journal of Agricultural Science* 18, No. 2 (2023): 61.

[13]I Gede Suputra Widharma , " *Distributed Control System* in Nuclear Power Plants ", (2021): 2.

(London Convention 1972), which was one of the first global conventions to protect the marine environment from human activities and has been in effect since 1975. [14]There are three main points of discussion that the author can explain here, namely:

a) **Disposal of waste or materials listed in Appendix I is prohibited**: This means that all parties involved in this agreement must prohibit the dumping of waste or materials listed in Appendix I into the sea. Appendix I covers certain types of waste that must not be disposed of.
b) **Disposal of waste or materials listed in Annex II requires a special permit**: If waste is listed in Annex II, countries must obtain a special permit before disposing into the sea. Appendix II covers the types of waste that require monitoring.
c) **Disposal of all waste or other materials requires a general permit**: If the waste or material is not listed in Appendix I or II, the state must still obtain a general permit before carrying out the disposal. This applies to waste or materials that are not included in the provisions.

## 1. The Role of the United Nations Convention on the Law of the Sea (UNCLOS 1982) in the Prevention of Sea Pollution

UNCLOS is a *Treaty*, which was born from the results of conferences or meetings of nations facilitated by the UN.[15] The UN Convention on the Law of the Sea 1982 (UNCLOS 1982) is an international agreement that grew out of the UN Conference on the Law of the Sea. The Law of the Sea Convention defines the rights and obligations of states in the use of the world's oceans and provides guidelines for the economy, environment, and management of marine natural resources.[16]

The 1982 UNCLOS Convention has been signed by more than 100 participating countries. This convention discusses maritime law including its regulations. UNCLOS defines marine pollution as the entry of substances or energy directly or indirectly by humans into the marine environment, including Kuala Lumpur, with dire consequences such as disruption of activities at sea, including fishing and other legitimate uses of the sea. This is by Article 1 (4) UNCLOS. UNCLOS also provides obligations and responsibilities to countries to prevent and control

[14]I Putu Mahardika, I Gede Pesek Eka Wisanjaya , "The Act of Discarding Waste Nuclear By Japan in Prefective International Law ", *Journal Kertha Village* 10, No. 10 (2022): 1095-1107
[15]Dwi Astuti Palupi , " International Maritime Law ", *LPPM Bung Hatta University* (2021): 8.
[16]Yulia Wiliawati , Danial, Fatkhul Muin, " The Existence of UNCLOS 1982 in Efforts to Enforce International Maritime Law in Coastal Country Waters ", *Sultan Jurisprudance : Journal of Legal Research* 2, No. 2 (2022): 287. Source: https://jurnal.untirta.ac.id/index.php/jurisprudence/index

marine pollution in their jurisdiction. Currently, nuclear waste disposal is one of the main causes of marine environmental pollution.

Although international law does not prohibit the use of nuclear energy for non-hazardous purposes, the decision to launch a nuclear program requires important considerations that require special attention to the security and non-proliferation aspects of nuclear materials. [17]However, the actions taken by the Japanese government in disposing of nuclear waste at sea are less efficient, even though Japan has confirmed that the nuclear water has been filtered and is considered safe because Japan has a reason for needing to remove the wastewater from the tank. After all, the storage tank is full. It is still feared that the actions taken by the Japanese government will have long-term effects. Considering the importance of protecting the marine environment, the 1982 UN Convention on the Law of the Sea (hereinafter referred to as UNCLOS) has special provisions that specifically regulate the protection and conservation of the marine environment.

Chapter XII (12) of the United Nations Convention on the Law of the Sea of 1982 covers the protection, conservation, prevention, mitigation, and control of marine pollution.[18]

The following are a series of important aspects outlined in UNCLOS 1982 (Chapter XII) related to the protection and preservation of the marine environment, namely:

a. Protection of the Marine Environment: States must take necessary measures by this convention to ensure effective protection of the marine environment from adverse impacts that may arise from certain activities. This includes the prevention, reduction, and control of pollution and other threats to the marine environment, as well as the protection and conservation of marine natural resources.
b. Protection of Human Life: States must take necessary measures to ensure the effective protection of human life. This is done by adopting appropriate laws, regulations, and procedures to supplement the relevant international laws mentioned in the treaty in question.
c. Commoditization of Activities: Activities within the area must be carried out in a manner that is reasonable and takes into account other activities in the marine environment. Installations used to carry out activities within the territory must be

[17]Roberto Phisipal , " International Legal Regulations for the Use of Nuclear Energy and Its Impacts. " The Possible Environment " , *Lex et* Societatis 1, No. 5 (2023): 124. https://ejournal.unsrat.ac.id/index.php/lexetsocietatis/article/view/3180

[18] Masdin , " Implementation Provisions of the 1982 United Nations Convention On The Law Of The Sea (UNCLOS). Protection and Preservation Indonesian Marine Environment ", *Journal Legal Opposition Law Science* 4, (2016): 2.

installed, located, and removed only by this section and by the laws, regulations, and procedures of the Authority.

The sea brings great benefits and roles to human life and is also part of the living environment. With the development of science and technology, the function of the sea is increasing with the discovery of various types of mining materials and valuable artifacts from excavations. [19]Facts regarding maritime law issues are currently increasing. Various directives have been issued by the government, but in practice, they have not been able to overcome existing problems, including protecting the marine environment.[20]

International environmental law becomes very important when the natural environment has been polluted, whether in the air, land, or sea. This concern cannot be avoided because it can lead to injustice for future generations. [21]The concept of *rights of future generations* (the rights of future generations is outlined in many international legal instruments. Based on various international legal instruments, both in the form of declarations and resolutions or also international conventions, defining the *rights of future generations* are generational rights on the benefits and development of nature and cultural heritage from previous generations.[22]

UNCLOS 1982 also emphasizes that every coastal state has the rights and obligations to exercise sovereign rights and protect the use of natural resources within their exclusive economic zone. Coastal states also have a responsibility to control and monitor abuse in their marine environment, as well as prevent abuse from resulting in marine pollution. In the context of nuclear waste disposal in Fukushima, Japan, UNCLOS 1982 also emphasized that countries affected by marine pollution have the right to request compensation from the country responsible for the pollution. This shows that UNCLOS 1982 has an important role in encouraging countries to take responsibility for protecting the international marine environment and preventing environmental disasters that can harm the environment and human health.

## 2. Obligation and Responsibilities of Each State in Safeguarding the International Marine Environment

Marine pollution is a serious problem that affects marine ecosystems and human health. To address this problem, international legal principles have been developed to provide a legal framework governing the protection of the ocean from pollution. Marine pollution imposes

[19]Didik Mohammad Sidik , " International Maritime Law and Regulations in Indonesia", *Bandung: Refika Aditama* (2014): 1.
[20]Dewa Gede Sudika Mangku , " Protection and Preservation Marine Environment According to International Law ", *Tanjungpura Law Journal* 4 , (2020): 164.
[21]Jawahir Thontowi , "Law and Relationships International ", *UII Press Yogyakarta* : 163.
[22] Suparto Wijoyo , " Environmental Law International ", *Ray Graphics* (2017): 109.

obligations on polluters, be they countries, individuals, or other legal entities, and each party must play its role and take action and efforts to prevent and overcome marine pollution, being responsible for paying compensation for pollution caused by that country.[23]

According to the United Nations Convention on the Law of the Sea (UNCLOS), every country must protect and preserve the international marine environment. This includes the obligation to prevent marine pollution, including the dumping of nuclear waste, as well as to collaborate with other countries in protecting the marine environment and addressing its negative impacts. In addition, states are also responsible for complying with international regulations relating to the marine environment and for compensating for environmental damage caused by human activities, including the dumping of nuclear waste. Thus, in the context of the Fukushima nuclear waste dump, countries have obligations and responsibilities to actively protect the international marine environment, prevent pollution, collaborate in mitigating negative impacts, and comply with and implement relevant international regulations. This emphasizes the importance of international cooperation in preserving the marine environment and overcoming global environmental challenges such as the impact of events such as the Fukushima nuclear waste dump.

International law establishes that state responsibility arises from failure to comply with international obligations. In general, for a country to be held responsible, it must stop violating its international obligations and compensate other countries for the losses they cause. A distinction must be made between state responsibility based on guilt and responsibility without fault, which imposes responsibility for adverse impacts resulting from lawful actions.[24]

Some of the responsibilities and obligations of states in protecting the international marine environment include:

a. Protect and preserve the international marine environment, including preventing marine pollution, managing marine resources sustainably, and developing environmentally friendly technology.
b. Comply with international regulations relating to the marine environment, such as the United Nations Convention on the Law of the Sea (UNCLOS)

[23]Ahmad Syofyan , " Responsibility for Marine Pollution Caused by Oil According to International Law ", *Inspiration* , No. X (2010): 139-140. http://jurnal.untad.ac.id/jurnal/index.php/INSP/article/view/2792/1888

[24] Hajriyanti Nuraini, "The Analtysis Of Japan's Decision to Discharge Fukhusima Radioactive Waste Water Under International Environmental Law", *LITRA: Journal of Spatial and Agrarian Environmental Law* 1, No. 2 (2022): 271. https://doi.org/10.23920/litra.v1i2.775

c. Collaborate with other countries and international organizations in protecting the marine environment and overcoming its negative impacts.
d. Responsible for compensating for environmental damage caused by human activities, including marine pollution by nuclear waste.

In the context of the Fukushima nuclear waste dump, countries have obligations and responsibilities to actively protect the international marine environment, prevent pollution, collaborate in overcoming negative impacts, and comply with and implement international regulations in this regard. This emphasizes the importance of international cooperation in preserving the marine environment. and addressing global environmental challenges such as the impact of events such as the Fukushima nuclear waste dump that occurred in Japan. Apart from those mentioned above, there are several additional responsibilities for each country in protecting the international marine environment, namely:

1. Protection and Preservation of the Marine Environment: Every country is required to take action for the protection and preservation of the marine environment by the provisions of international law.
2. International Obligations for the Protection and Preservation of the Marine Environment: States are responsible for fulfilling their international obligations regarding the protection and preservation of the marine environment. They must be held accountable for their actions in this matter.
3. Regional and Global Coordination: The country must coordinate with other regional and global activities in protecting the marine environment, including the disposal of nuclear waste in Japan.
4. Issuance of Legislation: The country must regulate nuclear waste disposal legislation in Japan and issue these regulations by the provisions of international law.

By complying with state responsibilities in protecting the international marine environment according to the international environmental law system, countries are expected to be able to effectively safeguard the marine environment by the provisions of international law.

### 3. Application of *the Principles of Foreseeability of Harm* and *Precautionary Approach* in International Environmental Law

The principle *of foreseeability of harm* emphasizes that the party responsible for the action must be able to estimate or understand the possibility of damage or danger resulting from their actions. This principle is important in the context of environmental regulation because it

requires responsible parties to consider and prevent possible environmental damage before taking certain actions. This principle is also closely related to the precautionary approach in environmental management. Thus, the principle of "Foreseeability of Harm" plays an important role in ensuring that actions that could hurt the environment are considered carefully and responsibly.

Meanwhile, *the precautionary approach* is a principle that emphasizes preventive actions taken to reduce risks to the environment and human health, especially when there is scientific uncertainty regarding potential negative impacts on the environment. This principle requires responsible parties to consider and prevent possible environmental damage before taking certain actions. That is why the principles *of foreseeability of harm* and *the precautionary approach* are so closely related.

The application of the principles *of foreseeability of harm* and *precautionary approach* had indeed been mentioned in existing international treaties and agreements at that time. These are several agreements or conventions that are included in the principles of *foreseeability of harm* and the *precautionary approach*, namely as follows:[25]

a. Convention on the Protection of the Marine Environment of the Baltic Sea Area 1992 Article 3 paragraph (2).
b. Convention for the Protection of the Marine Environment of the North East Atlantic 1992 Article 2.
c. Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities 1996 in the Preamble section.
d. Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 Article 3 paragraph (1) number (7), Paragraph 23 and Paragraph 24.
e. Global Program for Action for the Protection of the Marine Environment from LandBased Activities Introduction section, number (9).

Based on this principle, the state is required to evaluate every policy that has the potential to impact the environment. States must also prevent or prohibit actions that are expected to cause environmental damage. Article 206 of the 1982 Law of the Sea Convention states that a state has reasonable grounds to believe that an activity proposed within its jurisdiction or control

[25]Adori Raka Susanto, " Implementation *Foreseeability of Harm* and *Precautionary Principle* in Regulation Rubbish Plastic As *Land-Based Sources of Pollution* in the Sea", *Belli Ac Pacis: International Law Journal* 7, no. 2 (2021): 55-56. https://jurnal.uns.ac.id/belli/article/view/59992/34983

is likely to cause significant marine pollution or significant and dangerous changes to the marine environment. Perhaps, countries have ensured that: must carry out an assessment of the potential impacts of such activities on the marine environment and submit a report on the results of that assessment.

The precautionary principle is also interpreted by the 1990 Bergen Ministerial Declaration On Sustainable Development that environmental actions must be able to anticipate, prevent, and attack the causes of environmental degradation. When there is a threat of serious or irreversible damage, scientific uncertainty should not be used as an excuse to delay preventive action against environmental degradation. The precautionary principle has been adopted in various international instruments and is an important part of the development of international environmental law. This principle emphasizes that precautionary measures should be taken in the face of scientific uncertainty and that scientific uncertainty should not be used as a reason to delay preventive action against environmental degradation. The precautionary principle allows decision-makers to adopt precautionary measures when there is significant scientific uncertainty related to the potential negative impact.

This principle first emerged during the 1970s and has since been enshrined in several international treaties. Although this principle divides opinion, for some, it is considered unscientific and an obstacle to progress. However, for others, this principle is considered an approach that protects human health and the environment. The precautionary principle is also closely related to risk governance, the scientific policy interface, and the relationship between caution and innovation. This principle also raises many opportunities and challenges in its implementation. Although experts agree that the precautionary principle does not call for specific actions, there are differences of opinion regarding the method for determining when to apply precautionary measures.

Japan's plan to dump nuclear waste into the sea has sparked debate and controversy. Let's look at two prefectures, namely between UNCLOS 1982 and environmental principles:

1. UNCLOS 1982:
    a. UNCLOS (United Nations Convention on the Law of the Sea) is an international agreement that regulates various aspects of ocean use and conservation.
    b. Article 192 of UNCLOS states that countries must take action to prevent, reduce, and control marine pollution, including waste disposal.
    c. Article 194 of UNCLOS requires countries to adopt international standards, including scientific and technical standards, to protect the marine environment.

d. Article 197 of UNCLOS emphasizes the need for international cooperation in managing and protecting the marine environment.

2. Environmental Principles:
   a. Precautionary Principle: Decisions that have the potential to damage the environment must be taken with caution and based on strong scientific evidence.
   b. Prevention Principle: Efforts must be made to prevent environmental pollution and damage wherever possible.
   c. Principle of International Cooperation: Countries must cooperate in protecting the global environment.

## C. Conclusion

This article discusses the importance of international cooperation in protecting the marine environment, especially in the context of the controversial issue of Japan's dumping of nuclear waste into the Pacific Ocean. This article highlights the role of UNCLOS 1982 in safeguarding the international marine environment, emphasizing the principles of precaution, prevention, and international cooperation. This article also discusses the potential negative impacts of Japan's actions, the importance of ecological sustainability, and community participation in environmental decision-making. The construction of UNCLOS 1982 is an international agreement that regulates various aspects of marine use and conservation towards international marine environmental protection. UNCLOS principles must be implemented strictly to maintain sustainability and diversity ecosystem sea.

## References

Abdurohman, Imanudin. 2023. *Kenapa Jepang Membuang Limbah Nuklir ke Laut dan Apa Dampaknya?* Agustus 28. https://tirto.id/kenapa-jepang-membuang-limbah-nuklir-ke-laut-dan-apa-dampaknya-gPrz.

Ahdiat, Adi. 2023. *Jepang, Negara Produsen Energi Nuklir Terbesar ke-8 di Dunia.* August 31. https://databoks.katadata.co.id/datapublish/2023/08/31/jepang-negara-produsen-energi-nuklir-terbesar-ke-8-di-dunia#:~:text=Adapun%20saat%20ini%20Jepang%20tercatat,terbesar%20ke%2D8%20di%20dunia.&text=Menurut%20data%20yang%20dihimpun%20IAEA,terawatt%2Dhour.

Aprilia Mawaddah, Maria Maya Lestari, Ledy Diana,. 2023. "Analisis Hukum Terhadap Rencana Pembuangan Limbah Nuklir ke Laut Pasca Terjadinya Gempa Bumi dan Tsunami di Jepang." *Jurnal Ilmu Hukum Dan Tata Negara 1, No. 2* 93.

Arbar, Thea Fathanah. 2023. *Daftar Negara Resmi Stop Impor Makanan Laut Jepang, Ada RI?* Agustus 29. https://www.cnbcindonesia.com/news/20230829142220-4-467123/daftar-negara-resmi-setop-impor-makanan-laut-jepang-ada-ri.

Audric, Keane. 2023. *Pembuangan Limbah Nuklir ke Laut oleh Jepang.* Augst 27. https://jurnalpost.com/pembuangan-limbah-nuklir-ke-laut-oleh-jepang/58101/.

Commissioner, United Nations Human Rights Office of the High. 2021. *Japan: UN Experts Say Deeply Disappointed by Decisions to Discharge Fukhusima Water.* April 15. https://www.ohchr.org/en/press-releases/2021/04/japan-un-experts-say-deeply-disappointed-decision-discharge-fukushima-water?LangID=E&NewsID=27000.

I Putu Mahardika, I Gede Pesek Eka Wisanjaya. 2022. " Tindakan Pembuangan Limbah Nuklir Oleh Jepang Dalam Prefektif Hukum Internasional." *Jurnal Kertha Desa 10, No. 10* 1095-1107.

Indonesia, CNN. 2023. *Pengawasan Atom PBB Pastikan Limbah Nuklir Fukhusima Tak Berbahaya.* Augst 30. https://www.cnnindonesia.com/internasional/20230830014203-113-992133/pengawas-atom-pbb-pastikan-limbah-nuklir-fukushima-tak-berbahaya.

Lathifatun Nikmatil Aula, Aditya Putri Ristanti, Novianah Khalimatus Sa'diyah, Ibrahim bin Sa'id. 2023. "The Potential Impact of Japanese Nuclear Waste on Fish Organs in the Sea of Japan." *Jurnal Agricultural Science 18, No. 2* 61.

Mangku, Dewa Gede Sudika. 2020. "Perlindungan dan Pelestarian Lingkungan Laut Menurut Hukum Internasional." *Tanjungpura Law Journal 4* 164.

Masdin. 2016. "Implementasi Ketentuan-Ketentuan United Nations Convention On The Law Of The Sea (UNCLOS) 1982 Terhadap Perlindungan Dan Pelestarian Lingkungan Laut Indonesia." *Jurnal Ilmu Hukum Legal Oponion 4* 2 .

Netty Herawati, Adityo Darmawan Sudagung,. 2021. "Presepsi Masyarakat dan Potensi Public Acceptance Terkait Wacana Pembangunan PLTN di Kabupaten Benkayang." *Jurnal Pengembangan Energi Nuklir 22, No. 2* 111.

Nuraini, Hajriyanti. 2022. "The Analtysis Of Japan's Decision to Discharge Fukhusima Radioactive Waste Water Under Internasional Eviromental Law. ." *LITRA: Jurnal Hukum Lingkungan Tata Ruang dan Agraria 1, No. 2* 271.

Palupi, Dwi Astuti. 2021. *Hukum Laut Internasional.* LPPM Universitas Bung Hatta.

Phisipal, Roberto. 2023. "Pengaturan Hukum Internasional Atas Pemanfaatan Tenaga Nuklir Dan Dampak Lingkungan Yang Mungkin Di Timbulkan." *Lex et Societatis 1, No. 5* 124.

Savitri, Devita. 2023. *Pro vs Kontra Pendapat Ilmuwan Soal Limbah Nuklir Jepang.* Agustus 28. https://www.detik.com/edu/detikpedia/d-6899285/pro-vs-kontra-pendapat-ilmuwan-soal-limbah-nuklir-jepang.

Sidik, Didik Mohammad. 2014. *Hukum Laut Internasional dan Pengaturan di Indonesia.* Bandung: Refika Aditama .

Stevanni Thalia Pandi, Natalia Lengkong, Kathleen Pontoh. 2023. " Kajian Hukum Pembuangan Limbah Nuklir Di Laut Menurut Hukum Lingkungan Internasional." *Lex Adminstratum 11, No. 1* .

Susanto, Adori Raka. 2021. "Penerapan Foreseeability of Harm dan Precautionary Principle Dalam Pengaturan Sampah Plastik Sebagai Land-Based Sources Pollution Di Laut." *Belli Ac Pacis : Jurnal Hukum Internasional 7, No. 2* 55-56. .

Syofyan, Ahmad. 2010. "Tanggungjawab Dalam Pencemaran Laut Yang Di Sebabkan Oleh Minyak Menurut Hukum Internasional." *Inspirasi , No. X* 139-140.

Thontowi, Jawahir. n.d. "Hukum dan Hubungan Internasional." 163. UII Press Yogyakarta.

Widharma, I Gede Suputra. 2021. "Distributed Control System Pada Pembangkit Listrik Tenaga Nuklir." Juni. https://www.researchgate.net/publication/352177396_DCS_on_Nuclear_Reactor_for_Power_Plants.

Wijoyo, Suparto. 2017. "Hukum Lingkungan Internasional." 109. Sinar Grafika.

Yulia Wiliawati, Danial, Fatkhul Muin. 2022. "Eksistensi UNCLOS 1982 dalam Upaya Penegakan Hukum Laut Internasional di Perairan Negara Pantai." *Sultan Yurisprudance: Jurnal Riset Hukum 2, No. 2* 287.