

CIVIL LIABILITY FOR ENVIRONMENTAL DAMAGE BY BALLAST WATER

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ABSTRACT

This study focuses on the environmental damage caused by ballast water, and the objective is to understand the application of environmental liability in this theme, observing the complexity of the circulation of assets and services in the hegemonic economic system with the potential for injury to nature. It can be inferred that ballast water is used by cargo ships for balance and safety during navigation, and, when discharged without the necessary skill and care, generates irreversible environmental and economic damage. To this end, a deductive, descriptive and analytical method was used, with a qualitative approach in the bibliographical and documentary research. The steps are consisted of a brief approach to environmental protection and sustainability in Brazil, followed by the conceptualization and analysis of the concept of environmental damage and environmental liability, to finally work on the concept of ballast water, as well as the possible damages and risks, exemplifying with cases cited throughout the work. Therefore, we concluded that the environmental damage caused by

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the ballast water discharge in Brazil is environmental liability of its agents, and joint liability of the State, when proven negligence in the management and control of this discharge.

Keywords: civil liability for the environment; environmental damage; Environmental Law; ballast water.

*A RESPONSABILIDADE CIVIL QUANTO AO
DANO AMBIENTAL POR ÁGUA DE LASTRO*

RESUMO

Este trabalho tem como foco o dano ambiental por águas de lastro, visando compreender a aplicação da responsabilidade civil ambiental nesse tema, observando a complexidade da circulação de bens e de serviços no sistema econômico hegemônico com o potencial de lesão à natureza. Pode-se inferir que a água de lastro é aquela utilizada pelos navios de carga, para equilíbrio e a segurança durante a navegação e que, quando despejada sem a perícia e o cuidado necessários, gera danos ambientais e econômicos irreversíveis. Para isso, foram utilizados os métodos dedutivo, descritivo e analítico, com abordagem qualitativa na realização da pesquisa bibliográfica e documental. As etapas consistiram em breve abordagem da proteção ambiental e sustentabilidade no Brasil, seguida da conceituação e da análise do conceito de dano ambiental e de responsabilidade civil ambiental, para, por fim, trabalhar o conceito de águas de lastro, bem como os possíveis danos e responsabilidade civil ambiental, exemplificando com casos citados ao longo do trabalho. Isto posto, foi possível concluir que os danos ambientais causados pelo deslastre Brasil são de responsabilização civil ambiental de seus agentes, e, solidariamente do Estado, quando comprovada a negligência no gerenciamento e controle do deslastre.

Palavras-chave: água de lastro; dano ambiental; Direito Ambiental; responsabilidade civil ambiental.

INTRODUCTION

The environmental damage caused by ballast water is diverse and with different types of environmental impact and, for this reason, this scientific article aims to conduct a bibliographic research based theoretically on theses, dissertations, monographs, course completion works, scientific articles and on international and national legislation, taking the 1988 Brazilian Constitution as a normative basis. The purpose is to make a qualitative analysis of the environmental civil liability for the environmental damage caused by malpractice and negligence in the treatment of ballast water, with respect to the Brazilian State's jurisdiction.

According to the Brazilian Maritime Authority Norm for the Management of Ships' Ballast Water (NORMAM-20/DPC) ballast water is that carried in ships to control trim, listing, draft, stability or tensions, presenting suspended particles (BRASIL, 2005).

De-ballasting takes place at the moment this water is discharged in the ports where the ships are berthed, bringing the risk of contamination in view of the harmful and toxic potential that are in the ballast tanks, since they may contain particles or harmful and exotic microorganisms that can cause imbalance to the local biome.

However, despite the risk involved in transporting ballast water, it is known that it is fundamental to guarantee the safety and efficiency of shipping, since it maintains the stability, balance and structural integrity of the vessels. For this reason, environmental law is responsible for analyzing the issue of environmental damage and civil liability, as well as promoting the prevention of environmental damage proven by scientific studies and monitoring of exotic species that show alteration in the aquatic condition of the region invaded, causing what is called bioinvasion by scientists, and which can lead to the extinction of native species and losses to the local economy.

Thus, the work is aimed at studying the environmental civil liability for environmental damage arising from de-ballasting of water carried in ships, which causes bioinvasion. In order to achieve the objective of this research, legislation and theoretical studies on Brazilian and international environmental law will be analyzed, with regard to environmental damage, water protection and aquatic biodiversity.

Firstly, a bibliographic survey on the legislation and the theory about environmental protection in Brazil will be made, specifically on the protection to the waters and the Brazilian aquatic biodiversity, with further

analysis on the concept of ballast water and the potential environmental damages.

In the sequence, civil liability will be studied from the general perspective in order to understand what environmental responsibility is in Brazilian law, and then environmental damage will be analyzed.

As a synthesis of this analysis, civil liability for damage caused by ballast water will be addressed to understand the feasibility of such liability and its characteristics, and also, critically analyzing Brazilian legislation on the subject, to ascertain whether there is specific and pertinent protection in the country, as well as the international standards that can be invoked to hold such damage liable, when ratified by Brazil.

Thus, considering that the mere positive legislation is not enough to deal with environmental damage, the objective is also to understand the effectiveness of these rules and the great relevance of the theme for environmental issues and healthy quality of life, survival and reproduction of the biodiversity affected by ballast water, besides the economic implications due to loss of native species that compound the local economy.

1 BRAZILIAN ENVIRONMENTAL PROTECTION

1.1 Environmental Law and sustainability

The protection to the environment is essential to the humanity's survival, and, for this reason, it is part of international policies that address the environmental and socio-environmental crisis that modern society is experiencing.

The environmental crisis that occurs worldwide should be seen holistically, denoting not only the environmental issue, but also the interference of the production method, that is, the economy, on the environment and social life (LEFF, 2002).

What is called an environmental crisis is a series of factors that imply the indiscriminate use of natural resources, without the possibility of nature's own renewal. This originated, mainly from the 1970s onwards, scientific theses that demonstrated an increase in the hole in the ozone layer, followed by other theses that have proved the energy, water, solid waste, pollution and climate crisis.

However, before these science alarms, economists were not concerned with the environment and sustainable development, since technology was expected to overcome all human difficulties, but what was perceived was

a major environmental crisis that reached a high degree of tension, representing a huge challenge to the humanity's survival (MIKHAILOVA, 2004).

Sustainable development was the alternative found in international dialogues. This concept has been outlined since the 1972 Stockholm Conference in Sweden, which represents a milestone for environmental discussions. The Stockholm Conference sought a balance between economic development and reducing environmental degradation, which would later develop into the concept of sustainable development (MACHADO, 2017; ANTUNES, 2010; MILARÉ, 2013).

It was the First World Conference on the Human Environment, which resulted in the Declaration on Human Environment or the Stockholm Declaration, which broke with the paradigm that natural resources were inexhaustible, demonstrating that the unrestrained advance and incoherent consumption have drastic consequences to the environment, such as the dryness of rivers and lakes, heat islands, greenhouse effect, and thermal inversion (MACHADO, 2017; ANTUNES, 2010; MILARÉ, 2013).

The United Nations (UN) continued with the debates on the environmental issue creating the World Commission on Environment and Development, with the function of discussing and proposing ways to harmonize the basic objectives of sustainability, namely: economic development and environmental conservation (MACHADO, 2017; ANTUNES, 2010; MILARÉ, 2013).

Mamed and Duarte (2012, p. 5294) return to the concepts discussed by the referred commission as follows:

The concept of sustainable development gained a global dimension through the 1987 Brundtland Report of the World Commission on Environment and Development. This Report, known as "Our Common Future," determined that from the expression "sustainable development" it is understood that the enjoyment of natural resources by the present generation should not harm the same right of future generations.

Therefore, it is clear that the Stockholm (1972) and Rio (1992) meetings brought the notion of development based on the limits of natural resources and social development. The importance of environmental protection to guarantee life and development of future generations is also a relevant fact for sustainability, since it seeks a balance between human impact on the environment and the resilience of the latter.

The aforementioned Brundtland Report (1987), which opened the debate for the academy on the concept of sustainability or sustainable

development, had the objective of precisely proposing the questioning about the applicability of this concept. In its origins,

The idea of sustainability takes shape and finds political expression in the definition of the term development, the result of the perception of a global environmental crisis. This perception has come a long way to the current structure, whose most recent origins are established in the 1950s, when humanity first perceived the existence of a global environmental risk: nuclear pollution. Its evidence alerted human beings that we are on a common ship, and that environmental issues are not restricted to limited territories (NASCIMENTO, 2012, p. 52).

Environmental degradation is now on the agenda of developed and developing countries, since, for the former, it greatly affects their quality of life, while the latter do not want restrictions on the exports of their primary products, that is, it directly affects their economy (MAMED; DUARTE, 2012).

Thus, the Brundtland Report opened debates for the concept of sustainable development, understanding that development should satisfy present needs, without compromising the ability of future generations to supply theirs (BRUNDTLAND, 1987).

Initiatives were taken at a global level until the Eco-92 Conference, held in Rio de Janeiro, established Agenda 21, which stated the importance of the commitment of each country to propose reflections on a local and global scale to manage public activities and private initiative in order to achieve sustainable development.

The progress paradigm has been reinterpreted, seeking to contemplate harmony and holistic balance between all parties, promoting not only quantitative economic growth, but also qualitative growth in the human development index (HDI) (BRASIL, 2004).

The initiatives demanded social inclusion and the mitigation of socio-environmental conflicts resulting from the concentration of access to natural resources and the excessive exploitation of nature. This includes participatory planning by each country for social inclusion, with regard to education, health and income distribution, urban and rural sustainability, in search of the preservation of natural and mineral resources, which would only be achieved through political ethics aiming at sustainable development (BRASIL, 2004).

And, in this context, international environmental law has been shaping and establishing important pacts to direct state commitments to sustainability aimed at protecting the environment for a healthy quality of life, both for these generations and for future ones.

1.2 Environmental Law and Brazilian Legal Protection to the Environment

Environmental legislation is necessary in our economic system, limiting it in relation to the exploitation of natural resources. In addition to the 1988 Brazilian Constitution, which deals with the environment in a special chapter, Brazil has a legal system for environmental protection considered to be one of the most advanced in comparison to other countries in the world.

Among the main rules that aim to protect the environment, it is possible to mention the following: Law no. 6.938/81, National Environment Policy; Law no. 9.433/97, National Water Resources Policy; Law no. 9.759/99, National Environmental Education Policy; Law no. 9.985/00, National System of Nature Conservation Units; Law no. 12.305/10, National Policy on Solid Waste, and Law no. 12.651/12, New Forest Code, among others.

The term Environment is defined by art. 3, I, of Law no. 6.938/1981, which establishes the National Environment Policy – PNMA:

Art. 3 – For the purposes provided for in this Law, environment is understood as
I – the set of conditions, laws, influences and physical, chemical, and biological interactions which allows, shelters and governs life in all its forms (BRASIL, 1981).

Still commenting on the aforementioned PNMA article, its item II defines “degradation of environmental quality as the adverse alteration of the characteristics of the environment,” and pollution, in item III and subitems, as the “degradation of environmental quality resulting from activities that directly or indirectly” cause damage to people’s health, safety and well-being, create “adverse conditions to social and economic activities,” reach and interfere with “biota unfavorably,” and “release materials or energy in disagreement with the established environmental standards” (BRASIL, 1981).

For this study on the legal aspects of environmental damage caused by ballast water, paragraphs *d* and *e* of item III of art. 3 of PNMA explicitly characterize the pollution that is generated by the activity of ballasting in Brazilian territory.

According to the words of Amado (2014, p. 40), Environmental Law, as an autonomous matter, is “a branch of public law composed of principles and rules that directly or indirectly regulate the environment,” in any of its dimensions.

And the author also states that environmental law in Brazil aims especially at controlling pollution, in order to keep it within tolerable standards, “to institute sustainable economic development, meeting the present generations’ needs without depriving future ones of their environmental dignity” (AMADO, 2014, p. 40).

In this context, environmental law follows the interpretation that where there is doubt, the environment should be favored (*in dubio pro natura*), as pointed out by Morato Leite and Belchior (2009).

The foundations of environmental law also have principles that are fundamental legal norms of a legal system, carrying characteristics such as abstraction and generality, which make it indeterminate when compared with objective rules that regulate factual situations. The principles, therefore, bring subjective commandments, applicable to different legal situations, and should call the jurists’ interpretation, together with the objective positive rules, the judicial precedents, the customs and social rules, and the legal theory or doctrine, among other sources of law (ALEXY, 2008).

Among the principles of environmental law, the most important for the study of this work will be mentioned, such as sustainable development, prevention, precaution, liability or polluter pays principles and the principle of ecologically balanced environment as a fundamental right of human beings.

The sustainable development principle, as already discussed in this paper, comes from the 1972 Stockholm Conference and is configured as fundamental for Environmental Law. It seeks economic growth, environmental preservation, and social equity. By this principle, the eradication of poverty, with equitable redistribution of income and equitable access to natural resources come to be balanced with economic growth and protection to the environment (SILVA, 2015).

The 1988 Brazilian Federal Constitution lists sustainable development in its art. 170, which determines the country’s economic order, observing principles such as the social function of property, free competition, consumer protection, protection to the environment, and reduction of social inequality, among others (BRASIL, 1988).

In turn, the principle of ecologically balanced environment as a fundamental human right, also derived from the 1972 United Nations Stockholm Declaration on the Environment, determines that:

Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations (ONU, 1972).

The 1988 Brazilian Federal Constitution accepted this principle in its art. 225, which states: “All have the right to an ecologically balanced environment, which is a good in common use and essential to a healthy quality of life [...] (BRASIL, 1988).

In the face of international and domestic protection, it can be inferred that the right to an ecologically balanced environment is closely linked to the dignity of the human beings and, therefore, it is the duty of the State to guarantee such fundamental principles of their existence and to protect the environment so that the quality of life is reached (SILVA; 2015).

The prevention principle is recognized in art. 225 of the 1988 Brazilian Federal Constitution and also observed in the resolutions of the National Environment Council – CONAMA. This principle recognizes that there is “a scientific basis for predicting the environmental damage resulting from a certain activity that is harmful to the environment, and points that conditions environmental licensing have to be imposed on the entrepreneur to mitigate or eliminate the losses” (AMADO, 2014).

This principle determines that given the scientific knowledge that humanity has today, it is possible to measure certain, known or concrete risk in the face of the enterprises carried out in relation to nature. This principle also determines the importance of preventing possibly irreparable environmental damage using scientific certainty (AMADO, 2014).

The prevention principle is the foundation of the Environmental Impact Study (EIA), provided for in art. 225, § 1, IV, of the 1988 Brazilian Federal Constitution, which “should be performed by the interested parties before the potentially environment degrading activity begins, among other preventive measures to be demanded by public agencies” (SILVA, 2015, p. 67).

The precautionary principle comes from German law and has an explicit provision in the 1988 Brazilian Federal Constitution, in its art. 225. It is also seen in the Rio Declaration (ECO/92), in Principle 15, which states:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used for postponing cost-effective measures to prevent environmental degradation.

The Declaration does not have the legal nature of an International Treaty and functions as a commitment adopted by the countries. Machado (2017, p. 103) states that the precautionary principle “consists in saying that we are not only responsible for what we know, about what we should have known, but also about what we should doubt.”

This principle goes back to *in dubio pro natura* or *salute*, characterizing the anticipation of the environmental degradation risk that the enterprise may offer, as explained by Machado (2017, p. 111) “when in doubt, the solution chosen is that which immediately protects the being and preserves the environment,” and further clarifies

[...] in certain cases, in view of scientific uncertainty, the causal relationship is assumed with the objective of preventing damage from occurring. Therefore, a strict application of the precautionary principle reverses the normal burden of proof and obliges the potential author to prove, beforehand, that his action will not cause damage to the environment (MACHADO, 2017, p. 113).

This risk is therefore abstract or potential. Based on this principle, the burden of proof in environmental demands is reversed, “assigning to the defendant (alleged polluter) the obligation to prove that his activity is neither dangerous nor polluting, despite the fact that there is no express rule in this regard.” Thus, this thesis was received by the Superior Court of Justice in 2009⁴(AMADO, 2014).

According to Silva (2015, p. 69), the precautionary principle brings the ethics of care, which “is not satisfied only with the lack of harm certainty, but favors human conduct that least harms the environment, even if eventually.”

The polluter pays principle is the last principle to be mentioned – remembering that the doctrine brings others that are also important for Environmental Law –: “considered fundamental in environmental policy, can be understood as an economic instrument that requires that the polluter, once identified, should bear the costs of preventing, repairing and suppressing environmental damage” (SILVA, 2015, p. 73).

This principle stems from the notion that damages that may be caused or are caused by enterprises linked to the environment should be repaired and prevented. Derani (2008, p. 142-143) points out that:

During the production process, in addition to the product sold, “negative externalities” are produced. They are called externalities because, although they result from production, they are earned by the community, in contrast to profit, which

4 REsp 972.902-RS, Rel. Min. Eliana Calmon, j. 8.25.2009.

is realized by the private producer. Hence the expression “privatization of profits and socialization of losses,” when negative externalities are identified. The application of this principle seeks to correct this cost added to society, imposing its internalization.

There is need to transfer to the producer the costs of negative externalities, since environmental impacts affect society as a whole. And, because environmental goods are finite, limited and common to all, as diffuse and collective interests, the polluter pays principle is applied (SILVA, 2015).

Another perspective on this principle is from Carneiro (2009, p. 69) who notes: “These goods, which we could classify as scarce goods in absolute terms by their nature, such as air or water, in principle are not in the economic circuit and are not governed by relationships socially created” to face the scarcity problem.

In order to balance negative externalities, society finds in the State the agent external to the market that, through public policies, can mitigate the impacts generated by economic interests, considering the social costs of environmental degradation. Such policies can be implemented by “direct regulation of the behavior of economic agents and the adoption of incentives and instruments of an economic nature that induce the polluter not to degrade nature” (SILVA, 2015, p. 75).

In this way, it can be understood that Environmental Law, equipped with international, constitutional principles and positive objective rules, complements the Brazilian legal system in order to be interpreted systematically, so that, in the face of the most different social and legal demands, it is not downplayed, due to the relevance of an ecologically balanced environment to guarantee the quality of human life on the planet.

In view of the subject studied, the potential for environmental impacts arising from ballast water needs to be studied since water is relevant as a finite good and essential for guaranteeing life on Earth. To this end, we begin to study how law regulates the protection to water and aquatic biodiversity in order to understand what measures can be taken in the face of imminent environmental risks.

2 CIVIL LIABILITY AND ENVIRONMENTAL DAMAGE

Before delving into the topic of liability, it is necessary to understand the concept of environmental damage, whose study base is present in the country’s legal doctrine, since there is constitutional omission on the subject.

For Carvalho (2013, p. 103),

Environmental damage consists of a notion that integrates injury with trans-individual and individual interests, and its repercussions affect both the natural environment and the anthropic environmental elements. This multifaceted integration provides breadth and great complexity to the legal meaning of environmental damage, as a result of the right to life itself.

However, from the legal point of view, the National Environment Policy – PNMA does not deal explicitly with the subject in the text of its art. 3, II, which conceptualizes environmental degradation as “the adverse alteration of the characteristics of the environment,” offers an interpretation for environmental damage. In turn, the item III of PNMA defines pollution, as already mentioned in the previous item, ratifying the degradation of environmental quality.

Milaré (2011, p. 1119) understands environmental damage as “the damage to natural resources, with consequent degradation – adverse alteration or *in peius* – of ecological balance and quality of life.” Indeed, for the purposes of this work, environmental damage is understood as the damage caused to the available natural resources, capable of affecting the well-being of the individuals that depend on them for the enjoyment of the right to health and quality of life.

The notion of environmental damage is essential for understanding the nuances of the civil liability system in environmental matters, given the marked differences between that type of damage and its traditional form. While the latter reaches a particular victim or an individualized set of victims, the former already has the potential to reach a collectivity of victims, given the possibility of materializing in different legal dimensions, enabling a classification under the criteria of injured interests (both in individual and in collective sphere) and nature of the good violated (asset or not) (CARVALHO, 2013, p.104). In fact, environmental damage has the potential to affect a diffuse plurality of victims, depending on its magnitude.

To ensure liability for environmental damage, another feature emerges that makes its application even more difficult: its evidential configuration due to the complexity of the protected legal good (environment), the scientific uncertainties that mark the diagnosis of its consequences, and the offensive potential of risky activities and their true causes (CARVALHO, 2013).

Scientific proof of environmental damage, essential for establishing

the causal link between the polluter's conduct and the injury, necessarily crosses the intersection between science and law, which materializes by means of the legal assimilation of technical information regarding the causes and consequences of ecological irritations. The interaction between these branches of knowledge is made complex by the legal limitations of operating in a normative enclosure, and it is even more difficult due to the side effects of technical-scientific progress.

Environmental damage occurs in multiple forms, often marked by a lack of certainty with regard to the reversibility of its effects. It is also characterized by difficult repair, imposing challenges to ecological restoration to the condition or state prior to the damage. Milaré (2013, p. 326) warns that “no matter how expensive the repair, the environmental integrity or the quality of the environment that is affected will never be reconstituted.”

Another challenge that is imposed on environmental civil liability is the difficult assessment of the damage, due to the difficulty in quantifying or assigning monetary values to the environment, since damage to a biome can take time to reach others, in view of the natural interconnection characteristic and synergy of biodiversity.

Milaré (2013, p. 740) also points out that “even if the repair effort is carried out, it is not ways possible, at the current stage of knowledge, to calculate the total environmental damage.” Thus, there is still the possibility that damage will continue to generate chain losses, in an indirect and cumulative manner.

Repair of environmental damage is established in art. 4, VII, of PMNA, which imposes on the polluter the obligation to recover and/or indemnify the damages caused. According to Machado (2017, p. 429), “Environmental Law presents a new type of behavior when the polluter is legally liable.”

The legal liability for aggression to environmental resources is ensured by means of the application of the polluter pays principle and full repair. The first, previously mentioned, aims at internalizing the damage caused by environmental damage. The second is associated with the idea of compensation and “establishes that the damage to the environment has to be fully repaired, that is, in an unlimited way, prohibiting the use of formulas that, in some way, can prevent the environment from being fully recovered and restored” (AUHAREK; ARAÚJO, 2009, p. 9).

Milaré (2011, p. 1,252) understands this principle as follows:

Brazil has adopted the theory of full repair of environmental damage, which means that the damage caused to the environment must be recovered in its entirety and any

legal rule that provides otherwise or that intends to limit the amount of damages to a maximum ceiling will be unconstitutional; therefore, when it is not possible to repair the damage, the corresponding monetary indemnity will still be due, to be reverted to the Funds for the Defense of Diffuse Rights, provided for in article 13 of Law 7,347/85.

The 1988 Federal Constitution, in its art. 225, § 3º, and PNMA, in its art. 14, § 1, establish this principle and, before it, there is always the legal duty of repair when environmental degradation affects the environment.

As for civil liability, it can be understood as a legal instrument that obliges an offender to compensate for damage caused to others. There is an assumption of damage to a third party that generates the duty to repair, so it is necessary to identify the conduct that generates the damage and the obligation to repair.

Principle 13 of Rio Declaration states that: “States shall develop national law regarding responsibility and compensation for the victims of pollution and other environmental damage [...]” (ONU, 1992). The 1988 Brazilian Federal Constitution, in its art. 225, § 3, affirms the possibility of environmental liability for conduct that is harmful to the environment, subjecting offenders, individuals or legal entities, to criminal and administrative sanctions, regardless of the obligation to repair the damage caused.

Art. 927 of the Civil Code deals with non-contractual civil liability, determining that “he who, by an unlawful act, causes damage to another, is obliged to repair it” (BRASIL, 2002). PNMA, in its art. 4, VII, determines the “imposition on the polluter of the obligation to recover and/or indemnify the damages caused” (BRASIL; 1981).

Civil liability can be classified as strict and subjective. Subjective liability concerns the culpability or not of the cause of the damage, since, if there is no fault, there is no civil repair. In order to analyze civil liability, it is necessary to ascertain whether there was negligence, malpractice or imprudence, and, from there, analyze the duty of compensation to the victim. To configure subjective civil liability, the following elements have to be present: anti-legal conduct, damage, causation and guilt, the main one (GONÇALVES, 2008).

Strict civil liability understands the repair from the damage caused and its relation with the activity that the causative agent develops. In general, it is characterized by the risk of certain activities and the inability to establish fault in the face of the damage caused. Its essential elements are: damage and causation, which links the agent to the damage, but without

the need for proof of guilt to result in the obligation to repair the damage (GONÇALVES, 2008).

Civil liability in environmental matters adopts the theory of strict liability according to art. 14, § 1, of PNMA:

§ 1 Without hindering the application of the penalties provided for in this article, the polluter is obliged, regardless of the existence of guilt, to indemnify or repair the damage caused to the environment and to third parties affected by his activity. The Federal and State Public Prosecutor's Office shall have the legitimacy to bring civil and criminal responsibility actions for damages caused to the environment (BRASIL; 1981).

Silva (2015, p. 216) reveals that, due to this legal provision, it must be proved: “a) that there was actually an environmental damage and; b) the cause and effect relationship between the conduct (fact) of the agent and the damage (causal link), so that there is civil responsibility.”

For the issue of environmental damage, it is irrelevant to determine whether or not there was recklessness or malpractice to generate the damage, and, therefore, “the lawfulness or not of the activity that causes damage to the environment is irrelevant,” since the environment is of greater interest, collective and necessary for the quality of life and realization of human dignity.

Auharek and Araújo (2009, p 12) state that:

Brazil has adopted the theory of strict civil liability in the field of environmental law, so it is not necessary to prove fault for there to be an obligation to indemnify. Strict civil liability was based on the theory of integral risk. Linking of strict liability to the theory of integral risk is the most rigorous form of attribution of liability for environmental damage, considering that, according to this theory, the duty to indemnify exists when the damage occurs, even in cases of the victim's exclusive fault, unforeseeable fortuitous event or foreseeable fortuitous event.

In the same perspective, Baracho Júnior (2000, p. 322) points out that linking strict liability to the theory of integral risk “expresses the great concern of Brazilian scholars to establish a system of responsibility as rigorous as possible, which is justified in the face of the alarming degradation situation [...]”.

Milaré (2013, p. 834) understands that the adoption of the activity risk theory, which originates the theory of strict liability, brings as main elements for creating the duty to indemnify: “a) need to investigate the fault; b) irrelevance of the lawfulness of the activity; c) non-application of the causes of exclusion from civil liability.”

Machado (2017, p. 423) mentions need to establish a connection between the damage and the polluting source, regardless of whether this is a multiple or single source, and there may be a plurality of authors of the ecological damage.

Silva (2015, p. 552) points out that there is responsibility for the “environmental entity that fails to monitor polluting activities,” using the administrative doctrine of strict liability of the State. The author still affirms that:

[...] socially tolerated degradation, supported by regular environmental licensing, within the standards set by environmental legislation, does not exempt the polluter from civilly responding for environmental damage, as the repair has no legal nature of civil sanction, since it aims to restore the previous environmental state or compensate for it.

The offender is not able to rule out eventual civil liability for the damages that may be caused even though being licensed to act economically by means of an environmental license granted by the public authority, since the repair purpose imposes the duty to restore the harmed environment as well as the affected society. In this sense, Machado (2017, p. 434) clarifies that in the case of an environmental license, there is no permission for the agent to pollute or degrade the environment:

The environmental license does not release the licensed entrepreneur from his duty to repair the environmental damage. This license, if fully regular, removes the character of administrative illegality from the act, but does not remove the civil responsibility to repair. The absence of administrative illegality will prevent the Public Administration from sanctioning environmental damage; but even so, there will be civil liability (MACHADO, 2017, p. 434).

The doctrine of environmental law always considers that the environment is very diffuse, in common use by the people, with its own nature, and should always be repaired to the extent of the damage caused, since the damage violates the fundamental right to an ecologically balanced environment, unbalancing the intergenerational law that guarantees future generations the enjoyment of the same environmental good (SILVA, 2015, p. 578).

For the purposes proposed in this work, the issue of civil liability in environmental matters is relevant and urgent since the damage arising from the lack of care in the transportation of ballast water can trigger perverse effects, characterized by its apparent invisibility and difficulty in control and inspection and, mainly, due to the challenge of establishing the offender’s responsibility, as will be discussed below.

3 CIVIL LIABILITY AND ENVIRONMENTAL DAMAGE CAUSED BY BALLAST WATER

This item will deal with the possibility of applying civil liability for environmental damage caused by de-ballasting, that is, the environmental damage caused by discharge of the ballast water that ships carry from one destination to another to ensure the stability and safety of shipping.

3.1 Legal Protection to water and aquatic biodiversity

As previously mentioned, ballast water is understood as that used for the stabilization of ships and transported between continents, and which is discharged in biomes (destination locations) different from those where they were originally collected.

When water is transported from one place to another, marine biodiversity is also transported, which makes it possible to generate irreversible or difficult-to-repair environmental damage, harming not only the marine fauna of the place that receives alien waters, but also the economy of that place due to a possible ecological imbalance.

The Ministry of Environment (MMA) states that aquatic biodiversity is a comprehensive term that “considers a set of continental, coastal and marine aquatic ecosystems and living beings that live or spend part of their biological cycle in these environments” (BRASIL, 2017). They are living organisms such as “fish, mollusks, crustaceans and algae,” considered as “fishing resources,” that is, they are the target of fishing activity (BRASIL, 2017).

It can also be inferred that water, by itself, constitutes a fundamental, finite and very common right, within the diffuse and collective interests already mentioned, such as the environment. Law no. 9.433/1997, which institutes the National Water Resources Policy (PNRH), states that water is a public domain good, in common use by the people, the Union, States or the Federal District (AMADO, 2014).

The publicization of water was due to its scarcity, especially fresh water, and its indispensability for the continuation of life on the planet. According to art. 1 of PNRH: “4. Water is a public good in common use, reason why it is not susceptible to private ownership.” And its item 5 states: “The individual has only the right to exploit groundwater upon authorization from the Government, with due consideration being paid” (BRASIL, 1997).

Water can be considered a human or fundamental right, given its importance for life on the planet. It is inserted among the rights of the first dimension from an individual perspective in the enjoyment of the right to a healthy life, as well as of the third dimension, under the focus of diffuse rights to an ecologically balanced environment. Then, the public nature of the protection of this good arises from these facts, linking state action to that task.

Maia Neto (2008, p. 324) explains the issue of water as a human right:

The legal protection to water as a good in the light of Human Rights is urgent and very important through education and dissemination of international instruments ratified by States through internal and external legislative processes. In the context of compared international and constitutional law, water must be considered a maximum fundamental right, given the imperative need for protection. Internal and external public law needs integration for the protection of life, health and property, the existence and continuity of the life processes of individuals and legal persons – activities and businesses – with due social and environmental liability.

Still within the national regulatory framework, mention should be made of the legal protection to water regulated in the Water Code, edited by Decree no. 24.643, of June 10, 1934, which established the Brazilian water policy, being considered one of the most complete norms ever produced on the water topics. Besides, there is the National Sanitation Policy (Law No. 5.138/67), and the National Irrigation Policy (Law No. 6,662/79), among others.

At the constitutional level, it can be verified that the legal protection to water occurs from the analysis of its arts. 5, 6 and 225, which have the status of fundamental norm, since they protect the balanced environment and the right to life and health, and all are intimately linked to the essential salubrity of water resources. Therefore, it is essential to recognize the human acts that can affect the quality of our waters, whose consequences – irreversible or not – endanger the enjoyment of the rights listed above. With this, a concern emerges focused on the management of ballast water, whose control or monitoring is difficult to perform due to the particularities and complexities of tracking for liability purposes when environmental damage is caused by its transportation and discharge, as will be seen below.

3.2 Ballast water and environmental damage

Navigating lakes, rivers or seas is present in human activities for immemorial times. Activities of commerce, provision of services, and

locomotion are generally those that use rivers and seas, through vessels that have revolutionized human development over time.

Ballast water is that which is “collected from sea and stored in tanks in the holds of ships, in order to provide stability to vessels when they are sailing without cargo” (BRASIL, 2017).

Ballast water is essential to the efficiency and safety of vessels. In Brazil, the legislation dealing with ballast water is determined by NORMAM-20/DPC, Maritime Authority Standard, issued in 2005 and updated in 2014, which defines ballast water as “the water with suspended particles carried on board of a vessel in its ballast tanks, to control trim, listing, draft, stability or tensions of the vessel” (BRASIL, 2005).

Ballast water, when discharged, promotes “daily transportation of about seven thousand species between different regions of the world” (GIBERTONI, 2014, p. 575).

According to Nascimento and Hahn (2016, p. 822-823), transfer of these species:

[...] arises from an activity inherent to the maritime operation and there are no fully satisfactory means of prevention for all ships and the existence or not of ballast water may result in operations with safety risk for the ship and its crew.

The problem involving ballast water is in the several marine species of a different ecosystem that can pose risks to the marine population where discharge occurs. According to the Global Ballast Water Management Program, coordinated by the International Maritime Organization – IMO, the severity of marine pollution through ballast water is sumptuous, as it has been identified as the fourth biggest threat to the oceans and global biodiversity worldwide (IMO, 2017).

Gibertoni (2014, p. 574) states that ballast water discharge has become an increasingly alarming form of contamination due to the difficulty of repairing the environmental damage caused. In the case of an oil spill, measures can be taken to recover the affected site; however, when it comes to the introduction of alien marine species to the site, it is practically irreversible.

Maritime law brings normative values that reinforce the idea of the diffuse environmental good that are the marine biomes affected by ballast water discharge. For this reason, there is a ban on the ballast water discharge in waters under national jurisdiction, and, “although in specific cases it is permitted, the person responsible is obliged to repair the damage

caused to the environment and indemnify economic activities and public and private assets” (GIBERTONI, 2014, p. 579).

Therefore, NORMAM-20 (BRASIL, 2005) determines a series of measures for the management of ballast water, with forms for control and inspection, and verification of the irregularity through an environmental infraction notice.

3.3 Civil liability for environmental damage caused by ballast water

Resuming civil liability for environmental damage, it was clear that the theory adopted for these specific topics is of strict liability, which does not depend on the culpability of the agent causing the damage for the repair obligation to be established.

Ibrahin (2012, p. 124) ratifies that the discharge of water from ships “can cause several damages that have to be avoided by the agents involved in the ballast water management system, which have to be inspected by public authorities.”

Public authorities have a duty to inspect, and vessels have to adopt preventive measures. They are necessary documentation for control that has to be informed to the authorities.

All port activity should act preventively in all procedures related to ballast water in order to avoid environmental impacts. The “social costs” and the “internalization of costs” of port activity should be borne by everyone involved in the maritime process. The set of rules governing the discharge of water from ships implies need to hold responsible the owner of the ship, the operator, the captain, the individual or legal person under public or private law that legally represents the organized port, the installation port, the platform and its support facilities and the owner of the cargo that, due to their actions or omissions, cause damage to the environment (IBRAHIN, 2012, p. 124).

The responsibility for the practice of any acts harmful to the environment on the part of the operators of the marine systems, especially with regard to the discharge of irregular water, was accepted by the risk theory, assigning to everyone that “creates a risk of damage to third parties and the environment, in the exercise of their activity, the strict joint and several liability, even if their behavior is exempt from guilt” (IBRAHIN, 2012, p. 127).

Gibertoni (2014, p. 45) adds:

Liability goes beyond repairing environmental damage. National legislation stipulates that the operator of an organized port, the owner or operator of a platform or ship, due to the discharge of polluting material in waters under national jurisdiction, are obliged to reimburse the expenses incurred by the competent bodies for the control or minimization of pollution caused, regardless of prior authorization and payment of a fine.

Commander and owner joint liability is considered irrelevant, since, in most cases, “filing suit against the owner proved to be more convenient than against the commander, an individual.” The owner of the ship, for being the holder of the vessel and using it for commercial activities, is implicated in the hypothesis of strict and joint liability (IBRAHIN, 2012, p. 127).

Within the scope of the legislative branch, reference should be made to two initiatives aimed at regulating the issue of civil liability for damage caused by disaster, namely: Bill no. 5.263, of 2005, presented by the Deputy Feu Rosa, from Espírito Santo, and Bill no. 6.260, of 2005, proposed by Deputy Carlos Willian on 24 November, 2005. Such projects have been archived since January 2007. Both were aimed at determining basic principles for the activity that results in discharge; however, they were targets of severe criticism regarding the technical and legal infeasibility of their implementation (IBRAHIN, 2012, p. 129), considering that the environmental damage caused by the discharge violates not only the principles of environmental law of precaution and prevention, but also of the polluter pays principle. Civil liability for cases such as those previously discussed has to be applied as urgent and relevant. In this same sense, Silva (2005) states that environmental civil liability is not a mere relationship between individual parties, since any threat to the environment, a common good of diffuse and collective interest, also implies a threat to the quality of life on the planet.

Therefore, it is a matter of ethical duty, combined with the precautionary principle due to the risks present in contemporary society (SILVA, 2005).

In effect, by analyzing the assumptions of civil liability in environmental matters and the challenges of its application, this study shows that the legal requirements related to environmental protection are more open to the absorption of technical information regarding this type of damage, so that it can fulfill its objective in guaranteeing the integrity of water resources. It is necessary, therefore, the rigor of the measures to prevent damages

resulting from the precarious transportation of ballast water, with constant and effective monitoring and inspection, under the risk of being vulnerable and constantly dependent on remedial actions that do not always succeed in restoring the quality of our waters.

CONCLUSION

This work studied the legal analysis of civil liability for environmental damage caused by ballast water. This water is carried in the holds of ships across continents, in order to offer stability and security to vessels when they are sailing without cargo.

When it is discharged without proper expertise and precaution, it can generate irreversible environmental damage, since, together with the water, there is the alien aquatic biodiversity, which is often harmful to the marine biota of the location where it will be discharged.

From environmental damages to economic damages, ballast water discharge have to be controlled, managed and inspected in order to comply with the related regulations. Failure to do so would create civil liability for those responsible, regardless of intent or guilt, since the theory of civil liability adopted for environmental damage is the theory of strict liability, which only precludes the harmful fact and the causal link capable of establishing the link between illicit conduct and the degradation attributed to it.

From reading this text, it was possible to understand that civil liability is an instrument whose objective is to impel agents of harmful behavior to bear the full risk of the activity they perform. As a result of this, the possibility of making civil liability for the discharge viable is reinforced, imposing the duty of repair on the agent that directly or indirectly contributed to the ecological degradation, through joint and several liability. And, in this chain of commitment to environmental protection, the State would still be hold responsible when it neglects its functions of controlling, managing and inspecting the discharge.

It was found that the damage caused by irregular ballast water transportation often occurs silently and invisible to the eyes of the Public Power, which does not always manifest itself instantly; these facts contribute to facilitating the defense of the polluters, giving them several subterfuges allowed by the legislation. Polluters, then, take advantage of the fact that their fault was not satisfactorily proven due to insufficient evidence that establishes the causal link between their conduct and the injury they caused.

For this reason, a rigorous application of the rules in force is paramount, as well as a formulation of others that are capable of applying civil liability for the ballast water discharge.

Therefore, adopting several preventive and repair measures is necessary, so that the legal provisions can absorb greater rigor to be applied effectively when this type of damage occurs. In the context of prevention (broad sense), greater dissemination of information about the risks and consequences of the damage to our water resources is imperative, thus realizing the principle of environmental education, and forming an eco-citizenship aimed at the diffuse inspection of aquatic biota, leading society to build an ethos of shared environmental responsibility.

REFERENCES

ALEXY, R. *Teoria dos direitos fundamentais*. São Paulo: Malheiros, 2008.

AMADO, F. *Direito Ambiental esquematizado*. 5. ed. Rio de Janeiro: Forense, 2014.

ANTUNES, P. B. *Direito Ambiental*. 8. ed. Rio de Janeiro: Lumen Juris, 2010.

AUHAREK; Z. A.; ARAÚJO, M. M. *A responsabilidade civil pelo dano ambiental*. Belo Horizonte: PUC-Minas, 2009. Available at: http://www.fmd.pucminas.br/Virtuajus/1_2009/Discentes/A%20Responsabilidade%20Civil%20pelo%20dano%20Ambiental.pdf. Access on: July 2, 2019.

BARACHO JÚNIOR, J. A. O. *Responsabilidade civil por dano ao meio ambiente*. Belo Horizonte: Del Rey, 2000.

BRASIL. *Lei n. 6.938, de 31 de agosto de 1981*. Dispõe sobre a Política Nacional do Meio Ambiente, seus fins e mecanismos de formulação e aplicação, e dá outras providências. Brasília, DF: Presidência da República.

BRASIL. [Constituição (1988)]. *Constituição da República Federativa Brasileira*. Brasília, DF: Assembleia Nacional Constituinte, 1988.

BRASIL. *Lei n. 8.078, de 11 de setembro de 1990*. Institui o Código de Defesa do Consumidor. Brasília, DF: Presidência da República, 1990.

BRASIL. *Lei n. 9.433, de 8 de janeiro de 1997*. Institui a Política Nacional de Recursos Hídricos, cria o Sistema Nacional de Gerenciamento de

Recursos Hídricos, regulamenta o inciso XIX do art. 21 da Constituição Federal, e altera o art. 1º da Lei n. 8.001, de 13 de março de 1990, que modificou a Lei n. 7.990, de 28 de dezembro de 1989. Brasília, DF: Presidência da República, 1997.

BRASIL. *Lei n. 10.406, de 10 de janeiro de 2002*. Institui o Código Civil. Brasília, DF: Presidência da República, 2002.

BRASIL. Ministério do Meio Ambiente. *Agenda 21 brasileira: resultados da consulta nacional*. 2. ed. Brasília, DF: MMA, 2004.

BRASIL. Marinha do Brasil. *NORMAM-20/DPC, de 14 de junho de 2005*. Norma da autoridade marítima para o gerenciamento da água de lastro de navios da diretoria de portos e costas. Available at: https://www.dpc.mar.mil.br/normam/N_20/Introducao.pdf. Access on: July 13, 2019.

BRASIL. Ministério do Meio Ambiente. Secretaria de Biodiversidade. *Biodiversidade aquática*. Available at: <http://www.mma.gov.br/biodiversidade/biodiversidade-aquatica>. Access on: Nov 1, 2017.

BRASIL. Ministério do Meio Ambiente. *Água de Lastro*. Available at: <http://www.portodesantos.com.br/acoesCampanhas.php?pagina=02>. Access on: July 2, 2019.

BRUNDTLAND, G. H. (Org.). *Nosso futuro comum*. Rio de Janeiro: FGV, 1987.

CARNEIRO, R. *Direito Ambiental: uma abordagem econômica*. Rio de Janeiro: Forense, 2009.

CARVALHO, D. W. *Dano Ambiental futuro: a responsabilização civil pelo risco ambiental*. 2. ed. rev, atual. e ampl. Porto Alegre: Livraria do Advogado, 2013.

DERANI, C. *Direito Ambiental Econômico*. 3. ed. São Paulo: Saraiva, 2008.

GIBERTONI, C. A. C. *Teoria e prática do direito marítimo*. Rio de Janeiro: Renovar, 2014.

GONÇALVES, C. S. R. *Responsabilidade civil*. 10. ed. São Paulo: Saraiva, 2008.

IBRAHIN, F. J. *Gerenciamento e controle da água de lastro e a responsabilidade civil dos operadores do sistema*. Dissertação (Mestrado)

– Programa de Pós-Graduação em Direito Ambiental e Políticas Públicas, Universidade Federal do Amapá, Macapá, 2012.

IMO – INTERNATIONAL MARITIME ORGANIZATION. *Building partnerships to assist developing countries to reduce the transfer of harmful aquatic organisms in ships' ballast water: The GloBallast Partnerships Project 2007-2016*. London: IMO, 2017. Available at: <http://globallast.imo.org/>. Access on: July 24, 2019.

LEFF, E. *Epistemologia ambiental*. 3 ed. São Paulo: Cortez, 2002.

MACHADO, P. A. L. *Direito Ambiental Brasileiro*. São Paulo: Malheiros, 2017.

MAIA NETO, C. F. Água: direito humano fundamental máximo. Proteção jurídica ambiental, responsabilidade pública e dever da cidadania. *Verba Juris*, João Pessoa, ano 7, n. 7, jan./dez. 2008.

MAMED, D. O.; DUARTE, F. C. Meio ambiente e sustentabilidade no Mercosul: subsídios para uma harmonização legislativa das normas ambientais dos países-membros. In: XXI ENCONTRO NACIONAL DO CONPEDI: SISTEMA JURÍDICO E DIREITOS FUNDAMENTAIS INDIVIDUAIS E COLETIVOS, 21., 2012, Uberlândia. *Anais [...]*. Florianópolis: Fundação Boiteux, 2012. p. 5289-5306.

MILARÉ, E. *Direito do Ambiente: doutrina, prática, jurisprudência e glossário*. São Paulo: Revista dos Tribunais, 2013.

MILARÉ, É. *Direito do Ambiente: a gestão ambiental em foco*. 7. ed. São Paulo: Revista dos Tribunais, 2011.

MORATO LEITE, J. R.; BELCHIOR, G. Estado de Direito Ambiental: uma análise da recente jurisprudência ambiental do STJ sob o enfoque da hermenêutica jurídica. *Revista de Direito Ambiental*, São Paulo, v. 56, out./dez. 2009.

NASCIMENTO, E. P. Trajetória da sustentabilidade: do ambiental ao social, do social ao econômico. *Estudos Avançados*, São Paulo, v. 26, n. 74, São Paulo, p. 51-64, 2012.

NASCIMENTO, C. B.; HAHN, E. Responsabilidade Civil decorrente de dano ambiental causado por dispensação da água de lastro, na costa brasileira. *Revista Eletrônica Direito e Política*, Itajaí, v. 11, n. 2, p. 817-847, 2016.

ONU – ORGANIZAÇÃO DAS NAÇÕES UNIDAS. *Declaração de Estocolmo*. Estocolmo: ONU, 1972.

ONU – ORGANIZAÇÃO DAS NAÇÕES UNIDAS. *Declaração do Rio*. Rio de Janeiro: ONU, 1992.

SILVA, R. F. T. *Manual de Direito Ambiental*. 5. ed. Salvador: Jus Podium, 2015.

SILVA, S. T. Responsabilidade civil ambiental. In: PHILLIPPI JR, A.; ALVES, A. C. *Curso interdisciplinar de Direito Ambiental*. Barueri: Manole, 2005. p. 425-46.

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