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The Great Ballast Water Escape: Reclaiming The Lost Territories From Invasive Species!

There is no place like home. Yet, every day, over 7,000 different marine species are forced to go on an involuntary journey across the globe.[1] Who is the culprit behind this forced migration? Ballast water tanks. While these tanks seem innocent, they are guilty of introducing over 1000 bacteria and viruses annually at a single port. These displaced non-indigenous microorganisms act as a threat to the ecology, economy, environment, and human health of the place that they are brought to. While commercial activities in the sea continue to expand at full scale, the issue of invasive species in ship ballast water may soon approach a tipping point.

To understand why this is a huge concern, the workings of the ballast water tanks must first be comprehended. They serve a dual purpose. On the positive side, these tanks act as a counterbalance, providing stability to ships during the loading and unloading of cargo. However, they also serve as a means of transportation for thousands of invasive marine species into a marine environment that is new to them. This forced migration carries several implications. When a non-indigenous species is introduced into a habitat that lacks its natural predators, there is nothing to prevent its rapid growth.[2] Firstly, it displaces native species, creating space for itself while also vying for resources. The absence of natural checks disrupts

[1] Nadia Effanie, *International Law on Marine Pollution from Ballast Water*, 8 INDONESIAN J. INT'l L. 249 (2011).

[2] Cory Hebert, *Ballast Water Management: Federal, States, and International Regulations*, 37 S.U. L. REV. 315 (2010).

the food chain.[3] Newer species bring with them a plethora of unknown diseases. A cholera outbreak in Peru during the 1990s was linked to cholera germs discovered in ballast water.

The list of repercussions does not end so soon. They go beyond ecological concerns to cause harm to human health as well as the local economy. The zebra mussel invasion demonstrates how deadly the consequences can be if there is no check on these invasive species.[4] In the 1980s, European ships released ballast water into the Great Lakes of the United States. This is the first time zebra mussels appeared in US waters. They quickly took over the waters, anchoring themselves to every hard surface they could find, such as piers, docks, and buoys. They sabotaged the entire infrastructure with their sharp shells. Millions of dollars worth of damage were caused due to the clogging of municipal water supply and power plant water intake pipelines. Furthermore, they also clung to the native mussels. This limited their capacity to move, feed, and procreate, ultimately resulting in their demise. The chain reaction disturbed the balance of the food chain by endangering fish populations that depended on the native mussels for survival.

To prevent similar disasters, an international legal framework was required. The International Maritime Organization created the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention). The convention seeks to limit the risk of introducing non-native species and regulate ballast water emissions. Though it was adopted in 2004, it wasn't until 2017 that the convention became official. A ship-specific ballast water management strategy must be followed in order to comply with the convention's guidelines for managing bilge water and sediment levels. It requires ships to abide by rules regarding the exchange and treatment of ballast water.

However, the BWM Convention also provides states with significant flexibility in its implementation, allowing them to adapt it to their convenience.[5] This defeats the original

[3] Nengye Liu, *Prevention of Invasive Species from Ballast Water*, 28 INT'l J. MARINE & COASTAL L. 171 (2013).

[4] Cory Hebert, *Ballast Water Management: Federal, States, and International Regulations*, 37 S.U. L. REV. 315 (2010).

5 Tony George Puthucherril, *Ballast Waters and Aquatic Invasive Species: A Model for India*, 19 COLO. J. INT'l ENVTL. L. & POL'y 381 (2008).

purpose for which it was formulated. The convention's focus is primarily on preventing new introductions. This limits its scope to regulating existing populations of invasive species already established in various regions. Furthermore, the convention implements a phased schedule for the installation of Ballast Water Treatment Systems (BWTS), with different types of ships facing varying compliance deadlines. This variation in deadlines delays the enforcement of regulations. Despite being such a critical instrument for ballast water management, its implementation takes place according to the whims and fancies of the nations.

There are no doubts regarding the intention of the convention, but its effectiveness is still subject to ongoing debate. Despite the criticisms, the BWM Convention acts as a crucial foundation for stronger regulations. To increase its effectiveness, international cooperation and further research and development are essential. It is not only essential to manage ballast water effectively; doing so is a commitment to preserving our oceans and marine life for the coming generations. Now is the time to help indigenous marine species reclaim their habitats that they have lost to the invasive species. It is time for them to feel at home once again.

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