22. Charting A Course: Legal Framework For India's Marine Environment

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India, with its vast coastline, diverse marine ecosystems, and a large population dependent on the ocean for sustenance and livelihood, faces increasing pressures on its marine environment. Overfishing, pollution from land-based activities and maritime traffic, habitat destruction, and the impacts of climate change all pose significant threats to marine biodiversity and the delicate balance of these crucial ecosystems. Therefore, a robust and comprehensive legal framework, encompassing well-defined laws and enforceable rules, is essential to safeguard India's marine environment and its rich array of organisms. These regulations are necessary not only to protect vulnerable species and habitats but also to ensure the sustainable use of marine resources for the benefit of present and future generations, balancing economic needs with ecological integrity. Without effective legal protection, India's marine heritage and the livelihoods dependent upon it are at risk of irreversible damage.

A number of domestic legislations safeguard the marine environment and organisms in India. The major laws for the same include the following:

Marine Fisheries Regulation Acts

Marine Fisheries Regulation Acts in India form a complex web of legislation aimed at managing and conserving the country's vast marine fisheries resources. These acts, both at the national and state levels, address various aspects of fisheries management, from regulating fishing gear and vessel operations to promoting sustainable fishing practices and protecting the livelihoods of fishing communities. Understanding this regulatory framework is crucial for ensuring the long-term health of India's marine ecosystems and the economic well-being of those dependent on them. India's approach to fisheries regulation has evolved significantly over time. Initially, management was largely decentralized, with state governments holding primary responsibility. However, as fishing pressure increased and fish stocks began to decline, the need for a more coordinated and comprehensive approach became apparent. This led to the development of national-level legislation and a greater emphasis on scientific management principles.

Faced with growing conflicts among traditional, mechanized, and deep-sea fishing sectors, the Central Government developed a model **Marine Fisheries Regulation Act (MFRA) in 1979**. This served as a template for states, as fisheries regulation falls under their jurisdiction according to the Seventh Schedule of the Indian Constitution. While states govern fishing activities within their territorial waters (up to 12 nautical miles/22 km from the coast), the union government manages fisheries beyond this limit, within the Exclusive Economic Zone (EEZ) extending from 12 to 200 nautical miles (370 km) offshore. The management,

development, and regulation of maritime resources, therefore, is a shared responsibility between state and central governments.

The primary national legislation governing marine fisheries in India is the **Marine Fishing Policy, 2004**, which provides a broad framework for sustainable fisheries development. While not a standalone act, the policy guides the development of specific regulations and acts at both the national and state levels. It emphasizes the need for ecosystem-based management, participatory decision-making, and the conservation of marine biodiversity. Other important national legislation includes the British era **Fisheries Act, 1897**, which deals with general fisheries matters, and the **Maritime Zones of India (Regulation of Fishing by Foreign Fishing Vessels) Act, 1981**, which regulates foreign fishing vessels in India's Exclusive Economic Zone (EEZ).

In addition to national legislation, each coastal state in India has its own Marine Fisheries Regulation Act. These acts are crucial for implementing the broader principles of the national policy and adapting them to the specific conditions of their respective coastal regions. State acts typically cover issues such as:

- **Licensing and Registration of Fishing Vessels:** These regulations control the number and type of vessels operating in state waters, often based on vessel size, gear type, and fishing area.
- **Regulation of fishing gear and methods:** State acts may restrict mesh size or ban certain types of fishing gear or fishing methods that are considered destructive or unsustainable, such as bull trawling, light fishing, bottom trawls or dynamite fishing.
- **Spatial constraints:** Designated fishing zones within territorial waters are spatially allocated to different fishing vessel types to manage resource access and minimize conflict. Typically, a nearshore area (generally 5 to 10 km from the shore or fishing in defined depths) is reserved for artisanal, non-mechanized vessels, while other zones are allocated for mechanized vessels.
- **Closed Seasons and Fishing Zones:** To protect fish stocks during breeding seasons or in critical habitats, state regulations may establish closed seasons or restrict fishing in specific areas.
- **Landing and Marketing of Fish:** Regulations may govern the landing and sale of fish to ensure proper reporting of catches and prevent illegal fishing activities.
- **Management of Fishing Harbors and Infrastructure:** State governments often manage fishing harbours and related infrastructure, such as fish landing centers and auction halls.

State-wise legislation includes:

- The Kerala Marine Fishing Regulation Act, 1980
- The Goa, Daman and Diu Marine Fisheries Regulation Act, 1980
- The Maharashtra Marine Fisheries Regulation Act, 1981
- The Orissa Marine Fishing Regulation Act, 1981

- Tamil Nadu Marine Fishing Regulation Act, 1983
- The Karnataka Marine Fishing (Regulation) Act, 1986
- West Bengal Marine Fishing Regulation Act, 1993
- The Andhra Pradesh Marine Fishing (Regulation) Act, 1994
- Lakshadweep Marine Fishing Regulation, 2000
- The Gujarat Fisheries Act, 2003
- Andaman and Nicobar Islands Marine Fishing Regulation, 2003

Monsoon Trawl Ban:

India's monsoon trawl ban, implemented since the 1980s, is a crucial conservation measure for its 11,100 km coastline. This seasonal restriction on trawling, primarily during the monsoon months (June-August), coincides with the breeding and spawning period of many marine species, allowing fish populations to replenish. The ban is a key strategy for sustainable fisheries management. Initially, implementation was decentralized, with states tailoring bans to local conditions. Kerala pioneered the initiative in 1988, followed by other coastal states like Karnataka, Tamil Nadu, and Maharashtra. While a 2015 attempt at a uniform national ban faced resistance due to states' jurisdiction over fisheries, the principle remains vital. The ban addresses the detrimental effects of mechanized trawling, which intensified in the 1960s and 70s, leading to overfishing and habitat degradation. Trawling's indiscriminate nature catches juvenile and breeding fish, disrupting natural replenishment cycles. The ban allows these fish to reproduce undisturbed, promoting long-term stock health. Specifically targeting mechanized trawlers, the ban exempts or allows limited access for traditional, less invasive fishing methods. Enforcement varies by state, involving coastal patrolling, fisheries department monitoring, and collaboration with local fishing communities to combat illegal fishing. Duration also varies, for example, Kerala's is 52 days, while other states' range from 45-61 days.

The ban's objectives are threefold: marine conservation by protecting spawning fish and juveniles; sustainable fishery by stabilizing fish stocks and ensuring long-term viability; and ecosystem management by preventing habitat destruction caused by trawling, preserving the seabed, coral reefs, and other crucial underwater ecosystems. It aims to balance ecological health with the livelihoods of fishing communities dependent on these resources.

Minimum Legal Size regulations:

Minimum Legal Size (MLS) regulations are a crucial fisheries management tool designed to protect juvenile fish, maintain healthy spawning stocks, and control the size and number of fish caught. Properly managed fisheries are essential for global food security, but indiscriminate fishing practices have led to a continuous decline in fish stocks worldwide. MLS regulations address this issue by preventing the capture of undersized fish, allowing them to mature and reproduce, thus ensuring the long-term sustainability of the resource. The core principle of MLS is to allow fish to reach reproductive maturity before being caught. This helps prevent both growth overfishing (harvesting juveniles before they reach their full growth potential) and recruitment overfishing (harvesting so many fish that the population cannot replenish itself). Allowing undersized fish to grow to MLS can increase harvest

weight by an average of 20%, leading to economic benefits. While India has implemented some MLS regulations, notably for rock lobsters intended for export, and Kerala pioneered MLS under the Kerala Marine Fishing Regulation Act (KMFRA), 1980, broader implementation is being implemented in Karnataka and Tamil Nadu also. Kerala's Department of Fisheries, using CMFRI recommendations, has established MLS for 58 commercially important species, including finfish, crustaceans, and molluscs. The goals of MLS regulations are to: prevent growth and recruitment overfishing; protect immature fish; control the number and size of fish landed; promote the aesthetic value of fish; maximize economic benefits; and ensure the conservation and sustainability of fisheries resources. Implementing MLS involves considering species-specific biological characteristics for various types of fishes based on their maturation rates and ability of stocks to recover such as size at sex differentiation, maturity, and first maturity, as well as input and output controls such as gear selectivity, mesh sizes, and closed seasons. Successful MLS implementation requires strict catch quotas, effective gear monitoring, awareness programs for fishers about the dangers of juvenile and brood stock exploitation, amendments to acts like KMFRA to regulate juvenile fishing, and restrictions on specific gear and crafts.

However, MLS implementation faces challenges. These include the difficulty of conserving deep-water species that often die upon capture, the impracticality of MLS for short-lived species with high natural mortality, inappropriate craft and gear sizes, the migratory behaviour of some species, geographical variations in fish size at age, taxonomic identification problems, discarding of undersized fish, the mixed-stock and multi-gear nature of tropical fisheries, jurisdictional limitations, lack of regional cooperation, limited awareness among fishers, and weak enforcement. Overcoming these challenges through stricter regulations, improved monitoring, fisher education, and regional cooperation is crucial for the success of MLS regulations in India.

The Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976

The Territorial Waters, Continental Shelf, Exclusive Economic Zone and Other Maritime Zones Act, 1976 is a crucial piece of Indian legislation that defines and delimits India's maritime zones. It establishes the legal framework for India's jurisdiction and control over its surrounding waters, including the crucial aspects of resource management and environmental protection. Here's a brief overview:

- **Territorial Waters:** This zone extends 12 nautical miles from the baseline (typically the low-water mark along the coast). India exercises full sovereignty over its territorial waters, meaning it has complete control over all activities within this zone, including navigation, fishing, and resource exploitation.
- **Contiguous Zone:** Extending beyond the territorial waters up to 24 nautical miles from the baseline, the contiguous zone allows India to exercise control necessary to prevent and punish infringement of its customs, fiscal, immigration, or sanitary laws and regulations within its territory and territorial waters.

- **Continental Shelf:** This refers to the seabed and subsoil of the submarine areas that extend beyond India's territorial waters to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, where the outer edge of the continental margin does not extend up to that distance. India has sovereign rights for the purpose of exploring and exploiting its natural resources, including mineral and other non-living resources of the seabed and subsoil, as well as living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in physical contact with the seabed or the subsoil.
- **Exclusive Economic Zone (EEZ):** This zone stretches up to 200 nautical miles from the baseline. Within the EEZ, India has sovereign rights for the purpose of exploring, exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the seabed and of the seabed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from water, currents and winds. India also has jurisdiction with regard to the establishment and use of artificial islands, installations and structures, marine scientific research, the protection and preservation of the marine environment.
- **Other Maritime Zones:** The Act also makes provisions for other maritime zones as may be specified by the Central Government from time to time.

Essentially, this Act clarifies India's maritime boundaries and establishes its rights and responsibilities within each zone. It's a foundational legal document for managing India's ocean resources, regulating activities at sea, and protecting its marine environment.

The Environment Protection Act, 1986

India's Environment (Protection) Act, 1986, a landmark legislation, serves as an umbrella act for environmental protection. Enacted in the wake of the Bhopal Gas Tragedy, it provides a framework for environmental regulation, addressing pollution control and environmental conservation. The Act empowers the Central Government to take necessary measures for environmental protection and improvement. This includes coordinating nationwide programs, setting environmental quality standards, regulating industrial locations, managing hazardous substances, and preventing environmental accidents. It also empowers the government to establish authorities for specific environmental concerns. A key feature is the power to set standards for environmental quality and pollutant discharge. The Act enables restrictions on industrial activities in sensitive areas and mandates procedures for handling hazardous substances. It also empowers the government to inspect and investigate potential environmental violations. The Act emphasizes public participation in environmental protection. It allows individuals to file complaints against environmental violations, promoting awareness and accountability. It also stresses the importance of information dissemination regarding environmental pollution. While the Act provides a comprehensive framework, its effectiveness has been debated. Implementation challenges, enforcement

issues, and evolving environmental threats have highlighted the need for continuous improvement and adaptation. Despite these challenges, the Environment (Protection) Act remains a cornerstone of India's environmental legal framework, guiding policies and actions towards a sustainable future.

Coastal Zone Regulations

India's Coastal Regulation Zone (CRZ) regulations are a set of rules and guidelines that govern human activities in coastal areas to protect the environment and ensure sustainable development. These regulations are crucial due to India's extensive coastline, which is ecologically rich and supports the livelihoods of millions of people. The CRZ **regulations were first introduced in 1991 under the Environment (Protection) Act, 1986**. They have been revised and updated over the years, with significant amendments in 2011 and 2018, to address evolving challenges and incorporate new scientific understanding.

Objectives of CRZ Regulations included **conservation and protection of** the unique coastal ecosystems, including mangroves, coral reefs, and biodiversity hotspots, **livelihood security** ensuring the same for fishing and local communities who depend on coastal resources, promotion of **sustainable development** in coastal areas, balancing economic growth with environmental protection and **disaster management** to minimize the impact of natural hazards like cyclones and tsunamis by regulating development in vulnerable zones.

Classification of CRZ Areas:

The CRZ regulations classify coastal areas into four categories based on their ecological sensitivity and vulnerability:

- **CRZ-I:** Ecologically sensitive areas like mangroves, coral reefs, and wildlife habitats. Development is highly restricted in these zones.
- **CRZ-II:** Developed areas within municipal limits. Construction is regulated to ensure it aligns with environmental considerations.
- **CRZ-III:** Relatively undisturbed areas, including rural areas. Some development is permitted with restrictions to protect the environment.
- **CRZ-IV:** Water areas, including the sea and tidal-influenced water bodies. Activities like fishing and navigation are regulated to prevent pollution and habitat destruction.

Key Features of CRZ Regulations include **No Development Zone (NDZ) at** specific distance from the High Tide Line (HTL) where no construction is allowed. This distance varies depending on the CRZ category and the ecological sensitivity of the area. **Regulation of activities** includes restriction or regulation of various activities in different CRZ categories, including construction, industrial development, tourism, and waste disposal. State governments are required to prepare **Coastal Zone Management Plans (CZMPs)** that guide the implementation of CRZ regulations at the local level. Projects in CRZ areas require **environmental clearances** from relevant authorities, which involve assessing their potential environmental impact. The regulations provide for the establishment of **Coastal Zone**

Management Authorities for enforcement and monitoring at the state and national levels to enforce the rules and monitor compliance.

Challenges and issues include **implementation challenges** in **e**nforcing CRZ regulations due to factors like rapid urbanization, conflicting interests, and limited resources, b**alancing development needs and conservation of environment** and **climate change impacts** of rising sea levels and increased frequency of extreme weather events pose new challenges for coastal management.

In 2011, the Ministry of Environment, Forest and Climate Change (MoEF&CC) released the CRZ Notification 2011, consolidating previous changes to the original 1991 regulations and introducing new amendments. The primary objective of CRZ 2011 was to balance coastal conservation and protection with the promotion of sustainable development. This notification was superseded in 2019 by the CRZ Notification 2019, which aimed to further stimulate economic growth in coastal regions while continuing to safeguard these sensitive areas. The 2019 amendments to the CRZ regulations aimed to streamline the clearance process, promote tourism, and address the concerns of local communities. They also emphasized the need for greater flexibility in coastal management to adapt to local conditions.

India's CRZ regulations are a critical tool for managing and protecting its valuable coastal resources. While challenges remain in their implementation, the regulations provide a framework for balancing development with conservation and ensuring the sustainable use of coastal areas. Continuous efforts are needed to strengthen the regulations, improve enforcement, and address the emerging challenges of climate change to safeguard India's coastal ecosystems and the livelihoods of coastal communities.

Environment Impact Assessment Notification, 2006 (EIA)

The Environment Impact Assessment (EIA) Notification, 2006, is a key instrument for protecting India's marine environment. It functions as a mandatory approval process that project proponents, whose projects fall under the EIA's purview, must complete before implementation. The EIA mandates that new projects or activities, as well as the expansion or modernization of existing ones listed in its Schedules, require environmental clearance from relevant government authorities. This clearance is granted after evaluating the project's potential environmental impacts. Projects are categorized as either Category A or Category B based on the extent of their potential impacts, their effects on human health, and their impact on natural and man-made resources. Category A projects, deemed to have significant environmental impacts (including expansion/modernization and product mix changes), require prior environmental clearance from the Ministry of Environment, Forest and Climate Change (MoEF&CC) based on recommendations from an Expert Appraisal Committee (EAC). Oil and gas exploration, production, and development projects are examples of Category A activities. Category B projects, considered to have less significant environmental impacts, are further classified into B1 and B2. B2 projects do not require an EIA report. Category B activities (also including expansion/modernization and product mix changes) require prior environmental clearance from the State/Union Territory Environment Impact

Assessment Authority (SEIAA). An example of a Category B activity is the manufacturing of Single Super Phosphate (SSP) chemical fertilizers.

Implementation of the Environmental Protection Act (EPA), under which the EIA notification falls, is entrusted to several agencies, including the MoEF&CC, the Central Pollution Control Board (CPCB), State Pollution Control Boards (SPCBs), and District Level Committees (DLCs).

The Indian Wildlife (Protection) Act, 1972

India's Wildlife Protection Act is a crucial legal instrument for wildlife conservation. It defines key terms and categorizes wildlife into schedules, with Schedule I listing the most endangered species. The Act establishes authorities (Chapters II, IVB, IVC) to implement its provisions. A core function is prohibiting hunting and poaching (Chapters III & IIIA), with strict penalties, especially for crimes against endangered species. It also bans trade in illegally obtained trophies and wildlife products. The Act empowers governments to create national parks, wildlife sanctuaries, and conservation/community reserves (Chapter IV), providing protected habitats. National parks have the strictest regulations. Trade in wildlife and products is regulated (Chapter V), prohibiting endangered species' export and import. Other wildlife product trade is controlled via licensing. The Act's scheduling system categorizes wildlife by conservation status, determining protection levels and penalties. It also addresses invasive species, empowering authorities to control and eradicate them. Guidelines for zoos and aquariums ensure captive animal welfare, regulating acquisition, display, and care. The Act promotes wildlife research and public awareness. Enforcement is through wildlife wardens (Chapters II, VI, VIA) who investigate offenses, seize illegal products, and arrest offenders. Penalties vary by offense. Provision for amendments (Chapter VII) have strengthened the Act, addressing community participation, stricter penalties, and cybercrime related to wildlife from time to time. It provides a robust legal framework, adapting to evolving conservation challenges.

The Act has five schedules categorising and listing the species to be protected:

Schedule I: This schedule lists endangered species that require the highest level of protection. These species are prohibited from being hunted throughout India, and any violation of the law concerning them carries the harshest penalties. Examples include the tiger, blackbuck, snow leopard, and Great Indian Bustard. Part A of Schedule I lists mammal species, Part B birds, Part C reptiles, Part D amphibians, Part E fishes, Part F echinodermates, Part G molluscs, Part H arthropods other than insects, Part I butterflies, Part J dragonflies, and Part K corals.

Schedule II: Animals in this schedule are also granted high protection, although slightly less than those in Schedule I. Their trade is prohibited, and hunting is restricted except under specific circumstances like a threat to human life. Part A of Schedule II lists mammal species, Part B birds, Part C reptiles, Part D amphibians, Part E fishes, Part F molluscs, Part G arthropods other than insects, Part H butterflies, and Part I sponges.

Schedule III: This schedule is a list of protected specified plant species and regulates their cultivation, possession, sale, and transportation. This schedule aims to protect endangered plant species like the Beddome's cycad and Blue Vanda orchid.

Schedule IV: This schedule deals with interpretation of Chapter VB of the Act and with the trade or use of species listed in the Appendices.

Schedule V: This schedule lists animals considered "vermin," which can be hunted. These are typically animals that may cause damage to crops or property, such as the Common Crow, Fruit Bat, Rat, and Mice.

The schedules under the Wildlife Protection Act are crucial for prioritizing conservation efforts and ensuring that appropriate levels of protection are given to different species based on their vulnerability and ecological importance.

India is a signatory to CITES. The Wildlife Protection Act, 1972, as amended, incorporates provisions to align with CITES regulations. The CITES lists are appended to the IWPA in three Appendices:

Appendix I: Lists species that are most endangered and threatened with extinction. Trade in these species is generally prohibited.

Appendix II: Lists species that are not necessarily threatened with extinction, but may become so unless trade is strictly regulated.

Appendix [1] III: Lists species that a specific country has identified as needing protection and requires cooperation from other countries to control trade.

Protection to wildlife is also accorded through several regulations and notifications based on the Act, on specific issues and activities, and enacted at both central and State levels.

In summary, the Wildlife Protection Act, 1972 is a crucial instrument for wildlife conservation in India. It provides a legal framework for protecting wild animals, birds, and plants, regulating trade in wildlife products, and establishing protected areas.

While facing challenges in implementation, the Act remains a cornerstone of India's efforts to conserve its rich biodiversity.

The Biological Diversity Act, 2002

India's Biological Diversity Act, 2002, a parliamentary act, focuses on preserving India's rich biodiversity and ensuring equitable benefit-sharing from the use of biological resources and traditional knowledge. Enacted to fulfill India's obligations under the Convention on Biological Diversity, the Act defines "biodiversity" broadly, encompassing variability among living organisms and ecosystems. "Biological resources" are defined as plants, animals, microorganisms, and their genetic material, excluding human genetic material and value-added products. The Act established the National Biodiversity Authority (NBA), an autonomous body headquartered in Chennai, to implement its provisions. State Biodiversity Boards (SBBs) exist in 28 states, complemented by over 30,000 Biodiversity Management

Committees at the local level. These bodies regulate prohibited acts, advise the government on biodiversity conservation and heritage site selection, and oppose inappropriate intellectual property rights claims on Indian biological resources or traditional knowledge. The Act mandates permissions for accessing biological resources and associated knowledge. Foreigners, non-resident Indians, and foreign companies require NBA permission for research, survey, or commercial utilization. Indian citizens and entities require permission from the relevant SBB. Research results using Indian biological resources cannot be transferred to non-citizens or foreign companies without NBA approval, except for publications or collaborative research with approved institutions. The NBA can mandate benefit-sharing or royalties based on resource utilization. Benefit-sharing mechanisms include joint intellectual property ownership, technology transfer, locating production/research units in source areas, monetary and non-monetary compensation, and establishing venture capital funds for benefit claimants. Violations of the Act's provisions are punishable with imprisonment up to five years, fines up to ten lakh rupees, and fines commensurate with damage exceeding ten lakh rupees. Offenses under the Act are non-bailable and cognizable, highlighting the seriousness with which biodiversity protection is treated. The Act provides a comprehensive framework for balancing conservation with sustainable use and equitable benefit sharing, crucial for safeguarding India's biological heritage.

India's Biological Diversity Act has been amended and brought into force on 3rd August 2023, streamlining patent processes for inventions using Indian biological resources and promoting indigenous medicine. The amendment protects local communities' commercial interests by sharing biodiversity commerce benefits and decriminalizes biodiversity-related offenses. Key changes include clarifying the need for NBA approval for IPR protection (though registration is still required), while certain foreign entities still require NBA approval before filing IPR applications. Prior approval from both State Biodiversity Boards and the NBA is mandatory before commercializing IPRs involving biological resources. Accessing biological resources and related knowledge for commercial use also requires NBA approval. Penalties have been revised, with fines ranging from INR 1 lakh to INR 50 lakhs, potentially adjusted based on damage caused. Imprisonment has been removed, decriminalizing contraventions. Adjudicating Officers will investigate violations and determine penalties on a case-by-case basis. The amended Act aims to balance biodiversity protection with facilitating access and commercial utilization while ensuring equitable benefit sharing.

Water (Prevention and Control of Pollution) Act, 1974

India's primary legislation for water pollution control is the Water (Prevention and Control of Pollution) Act (WPCA). This Act aims to prevent and control water pollution, maintain water quality, and empower Central and State Pollution Control Boards (CPCB and SPCBs) to address related issues. Section 24 of the WPCA prohibits and penalizes individuals who discharge pollutants into water bodies (like streams) or worsen pollution by obstructing water flow, with potential imprisonment and fines. Section 32 empowers SPCBs to take corrective action in cases of accidental or unforeseen pollution and to prohibit further discharge of pollutants. Furthermore, establishing any industry or process likely to discharge effluent

requires prior SPCB approval; operating without this approval is punishable by imprisonment and fines. The SPCB defines the parameters for determining what constitutes polluting matter. Legal action under the WPCA requires a complaint filed by (a) a Board or its authorized officer, or (b) any individual who, with clear intent to complain, provides at least sixty days' notice of the alleged offense to the SPCB or authorized officer. SPCB-authorized officers can enter and inspect any premises to ensure compliance with the WPCA and its associated rules, orders, and authorizations. Water quality monitoring is primarily the responsibility of the CPCB at the national level and SPCBs at the state level. These Boards possess numerous powers and functions, including setting standards for sewage and industrial effluent treatment before discharge, and advising governments on water pollution prevention and control.

Indian Forest Act (IFA), 1927

First enacted in 1927, his legislation consolidates existing laws concerning forests, forest products, their movement, and applicable duties on timber and other forest produce. This act applies to forest lands, including those within coastal regions, particularly mangrove forests, which are often designated as reserve forests.

Marine Products Export Development Authority Act, 1972

The Marine Products Export Development Authority (MPEDA) Act established the MPEDA to develop and regulate the marine products industry and its exports from India. MPEDA's responsibilities include conserving and managing offshore and deep-sea fisheries, promoting markets, supporting capture and culture fisheries, developing processing infrastructure and value addition, ensuring quality control, and conducting research and development. The MPEDA regulates and safeguards exported seafood and marine products. It also advises the Indian government on setting standards for fishing vessels, storage facilities, processing plants, and other related infrastructure. Furthermore, the MPEDA certifies and licenses seafood exports to European Union countries, playing a key role in preventing, deterring, and eliminating illegal, unreported, and unregulated (IUU) fishing.

The MPEDA is the primary agency responsible for implementing the Act. The central government retains the power to prohibit, restrict, or control the import and export of marine products as needed.

India is a signatory to several international conventions and treaties, the provisions under which have been woven into Indian legislation over time. The major among these international instruments are mentioned below:

- The International Convention for the Regulation of Whaling (ICRW), 1946
- International Convention on Civil Liability for Oil Pollution Damage (CLC)
- The International Convention for the Prevention of Pollution from Ships (MARPOL)
- United Nations Convention on the Law of the Sea (UNCLOS)
- World Heritage Convention
- Convention on Conservation of Migratory Species of Wild Animals (CMS)

- Convention on International Trade in Endangered Species of Flora and Fauna (CITES)
- Convention on Biological Diversity (CBD)
- The Basel Convention on the Transboundary Movement of Hazardous Wastes and their Disposal
- The UNFCCC Paris Agreement
- The Kunming-Montreal Biodiversity Framework
- UNCLOS Biodiversity in Areas Beyond National Jurisdiction Agreement

India's laws and regulations, spanning from coastal zone management to fisheries regulation and pollution control, demonstrates a growing commitment to protecting its invaluable marine environment and its diverse array of organisms. While challenges in implementation, enforcement, and coordination persist, these legal instruments provide a crucial framework for balancing development pressures with the urgent need for conservation. Continued strengthening of existing legislation, coupled with proactive measures to address emerging threats like climate change and plastic pollution, is essential. Ultimately, the long-term health and productivity of India's marine ecosystems, and the livelihoods of millions dependent upon them, will rely on the effective and consistent application of these laws, fostering a culture of responsible stewardship of this vital natural resource. Only through such concerted efforts can India safeguard its rich marine heritage for future generations.