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**PARTICULARLY SENSITIVE SEA AREAS—PROTECTING THE
MARINE ENVIRONMENT IN THE TERRITORIAL SEAS AND
EXCLUSIVE ECONOMIC ZONES**

JON M. VAN DYKE AND SHERRY P. BRODER*

REMARKS IN HONOR OF PROFESSOR VED P. NANDA

It is a great honor and privilege to be able to make these remarks about our dear friend and colleague, Professor Ved P. Nanda, an outstanding, prolific and renowned international law scholar, teacher, and mentor. Professor Nanda is a passionate supporter of human rights, advocate of international environmental law, proponent of sustainable development, and major contributor to the development of modern international law. Professor Nanda has espoused the application of the rule of law to international armed conflicts and consistently promoted global peace. He has international respect as an author of leading treatises, books and articles on international law and as an exceptional teacher and mentor. He has won many honors and awards.

Ved and his wife Katharine are wonderful friends and colleagues and we have known them and collaborated with them for decades. We have adored their daughter Anjali Nanda since she was a child. Anjali recently worked for Sherry at the law office and lived with us in Hawaii. She was very devoted to Sherry's human rights cases. Another project was on black carbon and international environmental law. Anjali later developed her own hypothesis on black carbon and produced an excellent article further analyzing this type of air pollution focusing on India, which was published by the Denver Journal of International

* The late Professor Jon Van Dyke was Professor of Law and Carlsmith Ball Faculty Scholar at the William S. Richardson School of Law, University of Hawaii at Manoa. [*Professor Nanda comments: Professor Van Dyke's untimely death deprived the Ved Nanda Center for International and Comparative Law of his wise counsel, guidance and support, and his passionate commitment to justice. Jon and I enjoyed many years of collaboration on teaching and other projects around the world. I miss him dearly.*] Sherry Broder (Van Dyke) is a civil litigation attorney and Adjunct Professor at the William S. Richardson School of Law, University of Hawaii at Manoa. She and Professor Van Dyke together taught International Law and International Human Rights in many settings and worked tirelessly on issues involving international law, human rights and the rights of indigenous peoples.

Law and Policy. We are very pleased to see that she is now Editor in Chief of this publication.

In Hawaii we call our very closest friends “calabash family” which means they are family. Ved, Katharine and Anjali are our calabash family. We think of the many special times together: sitting at a café in Shimla drinking tea, walking on the Champs-Elysees and in the 6th Arrondissement, teaching together and collaborating on international environmental law issues and human rights, enjoying the warmth and beauty of Hawaii, attending a Ved Nanda Center for International and Comparative Law Conference in Denver, and many other things. Together Ved, Katharine and Anjali have a rare generosity of spirit and ethical approach to all matters in life and an unwavering commitment to social justice issues and making the world a better place. They have our profound respect, admiration, and affection.

In honor of Ved’s contributions to international environmental law and human rights, we have examined the establishment of designated areas in the ocean that restrict global shipping, and especially Particularly Sensitive Sea Areas (PSSAs), recognized by the International Maritime Organization (IMO). Guidelines for identification and establishment of PSSAs have been developing in the last 25 years. PSSAs provide one way to correct the imbalance favoring freedom of navigation over the interests of the coastal state to provide some protection to an area of its marine environment. Designation of a PSSA by the IMO at the request of a coastal state can be a powerful tool for protecting environmentally sensitive areas in the territorial seas and Exclusive Economic Zones (EEZs), for placing some limits on the freedom of navigation and imposing higher standards for the protection of the environment than is allowed under existing treaties and conventions.

PARTICULARLY SENSITIVE SEA AREAS—PROTECTING THE MARINE ENVIRONMENT IN THE TERRITORIAL SEAS AND EXCLUSIVE ECONOMIC ZONES

The oceans cover approximately 71 percent of the Earth’s surface and hold approximately 90 percent of the planet’s living biomass. Ocean ecosystems support all life on the planet. They provide oxygen and food, manage vast amounts of human pollutants, buffer the weather and regulate global temperature. The oceans are divided into several principal oceans and smaller seas. Because it is the principal component of Earth’s hydrosphere, the world ocean is integral to all known life, forms part of the carbon cycle, and influences climate and weather patterns.

Large ships have negative impacts on marine environment, wildlife and habitats through accidental spills of oil or the deliberate, operational discharge of wastes, chemical residues and ballast water as well as the use of anti-fouling paints, and noise. It has been long recognized that large vessels do threaten the marine environment by acci-

dents, physical damage and standard operational practices. There can be severe physical damage to coral reefs. The bunker fuel, a heavy fuel oil the shipping industry utilizes to run its engines, poses the greatest threat to the marine environment. Shipping companies favor such low-grade fuel because it is cheap. But it is extremely viscous, almost like sludge, and needs to be heated before injected into engines. The texture and viscosity of the bunker fuel makes it more ecologically dangerous and more difficult to clean up.

In creating the EEZ, United Nations Convention on the Law of the Sea (UNCLOS) gave coastal states significantly greater control than they had previously enjoyed over the waters adjacent to their territorial seas. UNCLOS also made coastal states responsible for protecting marine resources in their EEZs through national legislation and regulation.¹ Despite giving coastal states increased control and responsibility over their EEZs, the EEZ compromise continues to favor the freedom of navigation over coastal state jurisdiction. UNCLOS's requirement that coastal states have "due regard" for the freedom of navigation sharply constrains their ability to impose and enforce environmental efforts.

Since the ratification of UNCLOS, international shipping has increased dramatically while the global marine environment has degraded rapidly. With the expansion of maritime trade and the growth in the size of fleets, risks for the marine environment have increased. The balance UNCLOS struck in favor of the freedom of navigation is no longer equitable. Coastal states have difficulty in protecting their marine environment from the dangers and hazards presented by global shipping. UNCLOS protects navigational freedom by placing heavy constraints on coastal states' jurisdiction in their EEZs. In so doing, the Convention curtails the ability of coastal states to implement and enforce measures protecting marine resources.

1. The Law of the Sea Convention identifies categories of areas that may require greater environmental protection, due to rare or fragile ecosystems. Article 211(6)(a) provides:

Where the [general] international rules and standards . . . are inadequate to meet special circumstances and coastal States have reasonable grounds for believing that a particular, clearly defined area of their respective exclusive economic zones is an area where the adoption of special mandatory measures for the prevention of pollution from vessels is required for recognized technical reasons in relation to its oceanographical and ecological conditions, as well as its utilization or the protection of its resources and the particular character of its traffic, the coastal States, after appropriate consultations through the competent international organization with any other States concerned, may, for that area, direct a communication to that organization, submitting scientific and technical evidence in support and information on necessary reception facilities.

United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1183 U.N.T.S. 397 [hereafter UNCLOS], Part XII, art. 211(6)(a).

UNCLOS limits coastal state environmental efforts in order to protect the freedom of navigation by providing coastal states with few options for imposing protective measures even in navigationally challenging or ecologically sensitive areas. Article 211(6)(a) provides that where an area in an EEZ is particularly navigationally challenging or ecologically sensitive, a coastal state may “direct a communication” to “a competent international organization” (which has been generally interpreted to refer to the IMO) to permit the adoption of coastal state regulations in that area that are more stringent than international ones. This article provides coastal states with few effective options, however, because subsection (6)(c) mandates that requested restrictions cannot include “design, construction, manning or equipment standards other than generally accepted international rules and standards.”

The IMO is the primary international organization that sets maritime rules and standards.² A coastal state's jurisdiction over vessels in transit through its exclusive economic zone is overall limited to enforcing generally accepted international rules and standards designed for the protection or preservation of the marine environment. The IMO has developed rules to authorize coastal states to impose protective measures that restrict the freedom of navigation in ecologically sensitive marine areas. If a coastal state believes international standards are inadequate to protect a clearly defined area of particular ecological sensitivity within its EEZ, it may apply to the IMO for authorization to adopt special mandatory measures for prevention of vessel pollution within the area. Those measures, if approved by the IMO, may exceed international standards.

The IMO through its Marine Environment and Protection Committee (MEPC) began its study of the issue of PSSAs in response to resolution 9 of the 1978 International Conference on Tanker Safety and Pollution Prevention concerning the protection of such sea areas. Resolution 9 recognized IMO authority to adopt regulations to protect the marine environment, to prevent marine pollution and waste from ships by iden-

2. The London Convention was replaced by the 1996 Protocol. The Protocol provides a more restrictive approach and prohibits all waste dumping except for materials listed in Annex 1, such as dredged materials, sewage sludge, fish processing wastes, oil and gas installations and organic materials of natural origin. Most importantly, in implementing the Protocol, the Parties must apply a *precautionary approach and take appropriate preventative measures* when there is reason to believe that matter introduced into the marine environment is likely to cause harm, even when there is no conclusive evidence to prove a causal relation between inputs and their effects. See Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters, Dec. 29, 1972, 26 U.S.T. 2403 [hereinafter London Convention]; 1996 London Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Nov. 8, 1996, 36 I.L.M. 1 [hereinafter 1996 Protocol], Annex 1 (1997).

tifying special areas of protection. This authority enhanced the already existing designation of special areas in the 1973 MARPOL Convention.³

In 1987, the IMO adopted Resolution 619(15), which recommended the use of pilots for several high-risk ship transports seeking passage through the Torres Strait, the Great North East Channel, inner route of GBR, and Hydrographers' Passage.⁴

In 1990, the Great Barrier Reef (GBR), which had long been considered an area of ecological, social, cultural, economic, and scientific importance, was recognized as the first PSSA. The IMO approved compulsory pilotage, backed by criminal penalties, which are not permitted under other international conventions. Australia was eager to protect a particularly vulnerable part of the GBR, between Mackay (Island) and the Tropic of Capricorn. The area of the Reef covered by the PSSA "extends 2,300 kilometres along the east coast of Queensland and covers an area of 346,000 square kilometres," passing through both Australia's territorial sea and its EEZ.⁵ The Torres Strait was not part of the Great Barrier Reef Region PSSA initially, but the IMO extended the Reef PSSA to the Torres Strait in 2005. The area is also a Marine Protected Area under Australian domestic law and a Special Area under the International Convention for the Prevention of Pollution from Ships.⁶

In 1991, the IMO passed IMO Assembly Resolution 720(17), establishing "guidelines for designating and identifying Particularly Sensitive Sea Areas (PSSAs)."⁷ PSSAs are "areas with 'ecological, socio-economic, or scientific' importance." The IMO established that it can designate areas as PSSAs not only in states' territorial seas but also in their EEZs. However, these initial criteria and standards were too strict and the procedures too arduous and complex. In 1997, the archipelago of Sabana-Camagüey was recognized as a PSSA as requested by Cuba and it was the only PSSA recognized on the basis of the original Resolution 720(17) criteria.⁸ *The marine and*

3. Agustín Blanco-Bazán, *The IMO Guidelines on Particularly Sensitive Sea Areas (PSSAs): Their Possible Application to the Protection of Underwater Cultural Heritage*, 20 MARINE POLICY 343, 344 (1996).

4. IMO, Assembly, Use of Pilotage Services in the Torres Strait and Great Barrier Reef Area, Resolution A.619(15) (Nov. 19, 1987).

5. IMO, MEPC, Identification of the Great Barrier Reef Region as a Particularly Sensitive Area, Annex, IMO Marine Env't Prot. Comm. Res. 44 (30) (Nov. 16, 1990) (setting forth a geographical description of the Great Barrier Reef Region).

6. Australia Government, Australian Maritime Safety Authority [AMSA], The Torres Strait Particularly Sensitive Sea Area, available at http://www.amsa.gov.au/Marine_Environment_Protection/Torres_Strait (last visited Mar. 12, 2012).

7. IMO, Assembly, Guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Areas, Resolution A. 720 (17) (Nov. 6, 1991).

8. IMO, MEPC, Identification of the Archipelago of Sabana-Camagüey as a Particularly Sensitive Sea Area, Resolution MEPC.74(40) (Sept. 25, 1997).

*coastal ecosystems of this archipelago have been described as "almost pristine."*⁹

There were IMO amendments to the procedures in Resolution 720(17) to make the process more workable. In 1999 Resolution 885(21)¹⁰ was adopted and in 2001 Resolution 927(22) was adopted making further clarifying changes.¹¹ In 2005, additional revisions to the guidelines for identification and designation of PSSAs were approved.¹²

A PSSA is defined as "an area that needs special protection through action by IMO because of significance for recognized ecological, socio-economic or scientific reasons and because it may be vulnerable to be damaged by international shipping activities." However, a PSSA does not include any explicit prescribed protective mechanisms, but an application to the IMO for PSSA designation needs to be accompanied by specific proposed Associated Protective Measures (APM).¹³

Section 6 of the Guidelines refers to the spectrum of Associated Protective Measures approved or adopted by IMO to prevent, reduce, or eliminate the threat or identified vulnerability. There can be special discharge standards within PSSAs (other than by means of designation as a "special area" under MARPOL 73/78¹⁴) and "other measures aimed at protecting specific sea areas against environmental damage from ships, provided that they have an identified legal basis." When an area is designated as a PSSA, a coastal state can ask the IMO for permission to issue requirements for vessels and these requirements can and do impose restrictions on the freedom of the seas and passage in the PSSA. Applications for designation of a PSSA normally include a proposal for at least one measure to protect the area from shipping.

9. Pedro M. Alcolado, et al., *Cayo Coco, Sabana-Camagüey Archipelago, Cuba*, UNESCO, CSI Website, available at <http://www.unesco.org/csi/pub/papers/alcolado.htm> (last visited Mar. 12, 2012).

10. IMO, Assembly, Procedures for the Identification of Particularly Sensitive Sea Areas and the Adoption of Associated Protective measures and Amendments to the Guidelines Contained in Resolution A.720(17), Resolution A. 885(21) (Nov. 25, 1999).

11. IMO, Assembly, Guidelines for the Designation of Special Areas Under MARPOL 73/78 and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, Resolution A.927 (22) (Nov. 19, 2002) (Assembly Adoption of both Guidelines for the Designation of Special Areas under MARPOL and Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas).

12. IMO, Assembly, Revised Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas, Resolution A. 982 (Dec. 1, 2005).

13. *Id.*

14. The MARPOL Convention also includes express provisions for designating certain waters as "special areas," which may be subject to more stringent discharge requirements, including, where appropriate, a complete ban on discharges that would otherwise be permitted under the convention's annexes. The IMO Marine Environment Protection Committee is the approval body for "special area" designations. Approval is conditioned on the availability of adequate reception facilities for the wastes. See, e.g., MARPOL, Annex I, regs. 1(10) (definition of "special area"), 15.B, 34.

Associated protective measures can include a wide range of actions, but they are limited to actions within the purview of IMO, and must relate to international shipping activities. Specific associated protective measures can be used to control the maritime activities in that area, such as compulsory pilotage programs, separated shipping, traffic lanes, areas to be avoided, reporting requirements, no anchor zones, strict application of discharge and equipment requirements for ships, and installation of vessel traffic services (VTS). The PSSA Guidelines explicitly state that associated protective measures may include:

1. any measure that is already available under an existing IMO instrument; or is to be adopted by the IMO; and
2. any measure that does not yet exist which is described as the "development and adoption of other measures aimed at protecting specific sea areas against environmental damage from ships, provided that they have an identified legal basis."¹⁵

Allowing for these "other measures" permits the petitioning coastal states to seek measures beyond those already identified or approved.

To be identified as a PSSA, a proposed area must meet at least one of the ecological, socio-economic or scientific criteria listed in section 4 of the Guidelines, Annex I. The 2005 Guidelines have amended some of the criteria and added others to incorporate developing principles contained in recent international instruments such as the Biodiversity Convention. The earlier guidelines' original ecological criteria concentrated on the significance of the sea area for its uniqueness, dependency, representativeness, diversity, productivity, naturalness, integrity or vulnerability. In the 2005 Guidelines, the uniqueness criteria have been expanded to include the concept of rare ecosystems or habitats. The diversity criteria incorporate genetic diversity as well as the earlier standards of species diversity and highly varied ecosystems, habitats, or communities. Three new criteria have been added: critical habitat; spawning and breeding grounds, and biogeographic importance.

The required link to risk from international shipping activities is now emphasized through a section detailing data required to be submitted. This includes: vessel traffic characteristics in the area (operational factors, vessel types, traffic characteristics and harmful substances carried); and natural factors (hydrographic, meteorological and oceanographic). The guidelines also suggest providing information on evidence of damage from international shipping activities, history of groundings, collisions or spills in the area and their consequences, foreseeable circumstances under which significant damage might occur, stresses from other environmental sources, and measures already in effect and their actual or anticipated beneficial impact.

15. IMO, *supra* note 13.

These data requirements could present problems for countries with limited technical capacities or financial capabilities and the IMO recognizes that. Thus the guidelines provide: "IMO should, in assessing applications for designation of PSSAs and their associated protective measures, take into account the technical and financial resources available to developing Member Governments and those with economies in transition."

The IMO language reflects the language of Article 211(6)(a) of UNCLOS,¹⁶ but the PSSA designation goes one step further: it allows the IMO to impose measures to be taken in all maritime zones of a coastal state, including measures that affect design, construction, manning, or equipment standards.¹⁷ The creation of the PSSA mechanism was an important and significant step forward in expanding coastal states' ability to protect marine resources, as it allows the imposition of new restrictive measures in sensitive areas of EEZs.

All IMO member governments are obligated to ensure ships flying their flag comply with the APMs for that area. To give an area the status of a PSSA, is potentially a very important designation for the protection of that area. It gives coastal states the right to enact national legislation to implement the Associated Protective Measures.

Some States may prefer to adopt an international convention or include a new protocol to an existing Convention. The reason is that the guidelines do not have a binding force Guidelines which are widely accepted and voluntarily put into force may lead to more positive and significant results than a treaty which is not ratified and applied or is ratified and applied by only a few States.¹⁸

In 2002, *Prestige*, a single-hulled container ship carrying 77,000 metric tons of two different grades of heavy fuel, split in half and sank, releasing over 20 million US gallons (76,000 m) of oil into the sea. The *Prestige* catastrophe seriously threatened coastal areas of Portugal, Spain, France and Belgium. In spring 2003, the European Union (EU) banned large, single-hulled tankers carrying heavy grade oil from coming into any European ports and the French National Assembly unanimately enacted a law asserting the right to intercept ships that release polluting ballast waters as far as ninety miles from its Mediterranean coast, and also imposed stricter controls on transient oil tankers. The EU, through those member states together with the UK and Ireland, submitted a proposal to the MEPC asking for the designation of West-

16. UNCLOS, *supra* note 1.

17. IMO, *supra* note 13.

18. Nihan Ünlü, *Particularly Sensitive Sea Areas: Past Present and Future*, IMO Publication (2007), http://www.imo.org/blast/blastDataHelper.asp?data_id=17988&filename=Particularly.pdf (last visited Mar. 11, 2012).

ern European Waters as a PSSA and making those waters completely off-limits for single-hulled oil tankers and other cargo vessels transporting dangerous cargoes. The proposal covered a vast area from the Shetland Islands north of Scotland to the southern Portuguese-Spanish border in the respective states' EEZ and territorial seas. The original text contained a ban of single hull tankers over 600 dead weight tonnage carrying heavy grades of oil, feature which was withdrawn by the proponents of the proposal during the deliberations at the 49th session of the MEPC.¹⁹

The Western European Waters proposal created concerns about its potential for interfering with freedom of navigation especially since it was such a large sea area and traditionally a very busy shipping traffic area. The Western European Waters does not comprise a single coherent ecosystem and its environment was not known to be notably vulnerable. However, despite these concerns and objections, the Western European Waters PSSA was designated by the IMO on 15 October 2004.²⁰ "This sequence of events, initiated by five maritime countries to protect their own coastal resources, is a significant example of the 'state practice' of restricting navigational freedom in order to protect the resources of the EEZ."²¹ The earlier IMO guidelines for application to designate a PSSA were complicated and difficult to satisfy. Between 1991 and 2002, only two PSSAs were recognized. But with the new guidelines adopted in 2005, there was increased activity by coastal nations to protect their marine environments from international shipping.

By 2012, fourteen PSSAs had been approved by the IMO. They include the Great Barrier Reef, Australia (1990); Sabana-Camagüey Archipelago, Cuba (1997); sea area around Malpelo Island, Colombia (2002); marine area around the Florida Keys, United States (2002); Wadden Sea, Denmark, Germany, and the Netherlands (2002); Paracas National Reserve, Peru (2003); Western European Waters, Belgium, France, Ireland, Portugal, Spain, and the United Kingdom (2004); Torres Strait as an extension to Great Barrier Reef, Australia and Papua New Guinea (2005), Canary Islands, Spain (2005); Galapagos Archipelago, Ecuador (2005); the Baltic Sea area, Denmark, Estonia, Finland, Germany, Latvia, Lithuania, Poland and Sweden (2005); North-West Hawaiian Islands, Papahānaumokuākea Marine National Monument, United States (2008); Strait of Bonifacio, France and Italy (2011), Saba Bank (Caribbean Island of Saba) (2011), and The Netherlands

19. Markus Detjen, *The Western European PSSA—Testing a unique international concept to protect imperiled marine ecosystems*, 30 MARINE POLICY 442-53 (2006).

20. IMO, MEPC, Designation of the Western European Waters as a Particularly Sensitive Sea Area, Resolution MEPC, 121 (52) (Oct. 15, 2004).

21. Jon M. Van Dyke, *Canada's Authority To Prohibit LNG Vessels From Passing Through Head Harbor Passage To U.S. Ports*, 14 OCEAN & COASTAL L.J. 45, 64 (2008).

(approved in principle in July 2011 and to be formally designated by MEPC 64 in Oct 2012).

The definition and coverage of PSSAs has been expanded to better protect the marine environment and to readjust the imbalance between the freedom of navigation and the interests of the coastal state. This is consistent with the precautionary approach and the polluter pays principle. The number of PSSAs is growing. The expanse of ocean space that can be included in a PSSA is large. Important new protective measures have been adopted and can be instituted at any time. There are methods for enforcement. IMO member states are obliged to ensure that the ships flying their flag conform to the PSSA authorized protective measures. Coastal states may adopt national legislation and regulations to implement the PSSA APMs. PSSAs constitute a recognition and acceptance of local priorities by international interests. With the recent designation of the Bonifacio Strait, the potential jurisdiction of PSSAs has been extended and straits are now part of the regime of PSSAs. PSSAs have international legitimacy and respect and the PSSA regime has now evolved to the point of being international customary law. The next step is to apply the PSSA regime to include “areas with ‘ecological, socio-economic, or scientific’ importance” in the High Seas beyond national jurisdiction.