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FIFTEEN YEARS OF PARTICULARLY SENSITIVE SEA AREAS: A CONCEPT IN DEVELOPMENT

*Hélène Lefebvre-Chalain**

I. INTRODUCTION

The International Maritime Organization (IMO) has just celebrated the fifteenth anniversary of Assembly Resolution 720(17),¹ adopted on November 6, 1991 during the Assembly's twentieth session. This Resolution sets forth guidelines for designating special zones and identifying particularly sensitive sea areas (PSSAs).² It has marked the emergence of a new cooperation between maritime activities and the protection of fragile marine ecosystems.

This Resolution was intended to offer a new alternative to coastal nation states: to protect areas within their territorial limits and also to extend such protection beyond these limits. Indeed, with the development of maritime trade and the growth in the size of fleets, risks for the marine environment have increased and have become a paramount factor in the structure and operation of maritime transport. Although the IMO has legitimized and protected the principle of the freedom of navigation, with the advent of PSSAs the organization has sought to develop awareness on the part of states for the need to preserve the marine environment.³

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1. A. Res. 17/720, I.M.O. Doc. A/RES/17/720 (Nov. 6, 1991).

2. *Id.* at Preface.

3. NIHAN ÜNLÜ, PARTICULARLY SENSITIVE SEA AREAS: PAST, PRESENT AND FUTURE 1 (2004), http://www.imo.org/includes/blastDataOnly.asp/data_id%3D17988/Particularly.pdf; Agustín Blanco-Bazán, *The IMO Guidelines on Particularly Sensitive Sea Areas (PSSAs): Their Possible Application to the Protection of Underwater Cultural Heritage*, 20 MARINE POL'Y 343, 349 (1996).

In Resolution 982(24), the IMO defines PSSAs as areas with “ecological, socio-economic, or scientific” importance and, consequently, recognizes these areas as needing special protection through measures adopted by the IMO.⁴ The IMO, therefore, has the dual mission of developing the concept of PSSAs through the adoption of successive, more precisely defined guidelines, as well as that of supervising the recognition of such areas and their protection.⁵

As a United Nations agency that specializes in the maritime sector, the IMO is recognized by the United Nations Convention on the Law of the Sea (UNCLOS) as a “competent international organization” that develops standards and rules of reference.⁶ At the 1978 International Convention for the Prevention of Pollution from Ships (MARPOL), the IMO adopted Resolution 9, which formally entrusts the formulation of new concepts for marine environmental protection to the IMO authorities.⁷ Resolution 9 was undertaken in response to a series of maritime accidents that occurred in 1976 and 1977, such as the shipwreck of Olympic Bravery off the Brittany coast,⁸ and complimented the already existing concept of special areas in the 1973 MARPOL convention.⁹ These IMO instruments are enforceable through UNCLOS mandates, which establish “the degree to which coastal states may legitimately interfere with foreign ships in order to ensure compliance with IMO rules and standards.”¹⁰

Further, Resolution 9 enabled the IMO to prevent marine environmental pollution from ships and waste by identifying and protecting PSSAs. According to Resolution 9, the undertaking of this task should include three phases: 1) the inventory of all marine areas requiring special protection against the pollution that is generated by maritime transport and dumping by ships, taking into account the availability of renewable resources and the scientific importance of these areas; 2) the evaluation of measures necessary to ensure the protection of these areas that also respect other maritime

4. A. Res. 24/982, ¶ 1.2, I.M.O. Doc. A/RES/24/982 (Dec. 1, 2005).

5. Blanco-Bazán, *supra* note 3, at 344.

6. United Nations Convention on the Law of the Sea, Annex VIII, Article 2, ¶ 2, Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS]; A. Res. 240/58, Part I, IMO Doc. A/RES/240/58 (Dec. 23, 2003) (Contribution of the International Maritime Organization (IMO) to the Secretary General’s Report on Ocean’s and Law of the Sea).

7. Blanco-Bazán, *supra* note 3, at 344.

8. Cedre, *Spills: Olympic Bravery*, <http://www.cedre.fr/uk/spill/olympic/olympic.htm> (last visited Nov. 1, 2007).

9. Gerard Peet, *Particularly Sensitive Sea Areas—A Documentary History*, 9 INT’L J. MARINE & COASTAL L. 469, 475 (1994).

10. Julian Roberts, *Protecting Sensitive Marine Environments: The Role and Application of Ships Routing Measures*, 20 INT’L J. MARINE & COASTAL L. 135, 141 (2005).

activities and the freedom of the seas and its passage; and 3) the formulation of a suitable way to integrate these protective measures into the framework of relevant, existing conventions.¹¹

Although the operative paragraph of Resolution 9 allowed considerable action to be undertaken by the IMO after its enactment in 1978, discussions by the IMO's Marine Environment Protection Committee (MEPC) did not commence until 1986.¹² This is particularly lamentable because discussions were only initiated after pressure from several non-governmental organizations, such as Friends of the Earth¹³ and in the meantime several new maritime catastrophes had occurred, in particular the wreck of the Amoco Cadiz in 1978.¹⁴ Thereafter, the MEPC worked in collaboration with the Maritime Safety Committee (MSC) and its subcommittee on the Safety of Navigation (NAV) in order to develop the concept of PSSA, because any and all rules for the protection of fragile marine areas would have important consequences for the activities of maritime transport.¹⁵

In 1990, the Great Barrier Reef (GBR) was recognized as the first PSSA at the request of Australia, eager to protect a particularly vulnerable part of the GBR, between Mackay¹⁶ and the tropic of Capricorn.¹⁷ Before this designation, the GBR was the object of several special measures of protection, but these remained insufficient.¹⁸ In 1975, the Australian government, a signatory to the MARPOL convention, adopted the GBR Marine Park Act in order to preserve the integrity of the ecosystem of the GBR.¹⁹ Then, 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.²⁰ The GBR was also recognized on the World Heritage List of the United Nations Educational, Scientific, and

11. Blanco-Bazán, *supra* note 3, at 344.

12. Peet, *supra* note 9, at 476.

13. *Id.*

14. Cedre, *Spills: Amoco Cadiz*, <http://www.cedre.fr/uk/spill/amoco/amoco.htm> (last visited Oct. 21, 2007). On March 16, 1978 a Liberian oil tanker, the Amoco Cadiz, ran aground on Portsall Rocks on the Breton Coast. *Id.* This was "the largest oil spill caused by an oil tanker ever registered in the world." *Id.*

15. Peet, *supra* note 9, at 481.

16. Mackay is a city on the East coast of Australia.

17. Res. 30/24, M.E.P.C. Doc. RES/30/24 (Nov. 16, 1990); Blanco-Bazán, *supra* note 3, at 345.

18. Blanco-Bazán, *supra* note 3, at 345.

19. *Id.* at 344.

20. *Id.*; A. Res. 15/619, I.M.O. Doc. A/RES/15/619 (Nov. 19, 1987).

Cultural Organization (UNESCO).²¹ However, these measures were still considered insufficient and the need to develop new protective measures for the GBR's marine environment became crucial.

Following the recognition of the GBR as the first PSSA, discussions between 1990 and 1991 among IMO bodies concentrated on the standards that would be used in evaluating the circumstances and conditions necessary for a marine area to be designated a PSSA.²² The criteria and methods of designation were subsequently defined by Resolution 720(17), adopted in November 1991.²³ Moreover, it was decided that the only way a marine area could become recognized as a PSSA was by an IMO recommendation.²⁴ This was decided because Resolution 720(17) imposed considerable restrictions on the freedom of the seas and passage through PSSAs.²⁵ In fact, the need for a compatible standard for both maritime transport and marine environmental protection led to the establishment of several criteria, which have consequently been accepted and respected by all. However, the formula did not have much success in practice because of its arduous and complex procedures. The archipelago of Sabana-Camagüey was the only area to be recognized as a PSSA on the basis of the original Resolution 720(17) criteria, and was only considered for PSSA designation after a request was made by Cuba in 1997.²⁶

As originally envisioned, IMO resolutions were to be regularly revised in order to better define the concept of PSSA and to improve its implementation. The first revisions to the identification and determination measures for PSSAs began in 1999 with the amendments to Resolution 720(17) that were embodied in Resolution 885(21).²⁷ Then, in 2001, Resolution 927(22)²⁸ was adopted and was the last amendment needed in order to complete and finalize the necessary procedures for designating an area a PSSA. After these amendments were implemented, the IMO

21. Blanco-Bazán, *supra* note 3, at 345; Res. 15/619, *supra* note 20.

22. Blanco-Bazán, *supra* note 3, at 345.

23. A. Res. 17/720, *supra* note 1, ¶ 3.3.

24. Blanco-Bazán, *supra* note 3, at 345. The summary of the IMO's sixty-sixth session states that the designation of PSSAs "merited careful study and consideration by the IMO as a whole." *Id.*

25. *Id.*

26. Res. 40/74, M.E.P.C. Doc. RES/40/74 (Sept. 25, 1997).

27. A. Res. 21/885, I.M.O. Doc. A/RES/21/885 (Nov. 25, 1999) (Assembly Adoption of Procedures for the Identification of Particularly Sensitive Sea Areas).

28. A. Res. 22/927, I.M.O. Doc. A/RES/22/927 (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).

recognized three new PSSAs in 2002: Malpelo Island in Colombia;²⁹ the Florida Keys;³⁰ and the Wadden Sea in the Netherlands, Denmark, and Germany.³¹ In 2003, the Paracas National Reserve in Peru³² was also designated a PSSA. Finally, in 2004, Western European waters in Belgium, France, Ireland, Portugal, Spain, and the United Kingdom became PSSAs.³³

Nevertheless, it was not until December of 2005 that the Assembly adopted Resolution 982(24), which provided a legal framework dealing exclusively with PSSAs.³⁴ This last stage in the normative process allowed for the recognition of several new PSSAs, including: the Canary Islands in Spain;³⁵ the Baltic Sea in Denmark, Estonia, Finland, Germany, Lithuania, Poland, and Switzerland;³⁶ and the Galápagos archipelago in Ecuador.³⁷ However, because Resolution 982(24) was not included in the text of MARPOL, it remained legally non-binding.³⁸

It is questionable whether the model for PSSAs really offers a new alternative for the protection of particularly sensitive marine areas. Although the development of the PSSA concept has continued throughout the last fifteen years, the effectiveness of PSSAs still remains very limited. Specifically, this article analyzes these limitations and the potential for improvement of the PSSA model. Part II begins with a discussion of the PSSA model and its relation to other environmental concepts. Then, Part III provides an evaluation of the current PSSA model. Finally, Part IV discusses possible improvements of the PSSA model and identifies various locations that would benefit from a PSSA designation.

II. PSSA: THE ORIGINAL MODEL FOR THE PROTECTION OF SENSITIVE MARINE AREAS

Beginning in the twentieth century, environmental problems emerged due to international maritime transport. Nation states, anxious to protect their maritime areas, encouraged the development of models for the protection of marine areas. In this sense, the PSSA concept could be regarded as an additional formula for the protection of the marine

29. Res. 47/97 M.E.P.C. Doc. RES/47/97 (Mar. 8, 2002).

30. Res. 47/98 M.E.P.C. Doc. RES/47/98 (Mar. 8, 2002).

31. Res. 48/101 M.E.P.C. Doc. RES/48/101 (Oct. 11, 2002).

32. Res. 49/106 M.E.P.C. Doc. RES/49/106 (July 18, 2003).

33. Res. 52/121 M.E.P.C. Doc. RES/52/121 (Oct. 15, 2004).

34. Res. 24/982, *supra* note 4, ¶ 1.1.

35. Res. 53/134 M.E.P.C. Doc. RES/53/134 (July 15, 2005).

36. Res. 53/136 M.E.P.C. Doc. RES/53/136 (July 22, 2005).

37. Res. 53/135 M.E.P.C. Doc. RES/53/135 (July 22, 2005).

38. Roberts, *supra* note 10, at 142.

environment; however, it is different from other models because of its recognition criteria, the procedural hurdles it imposes on nation states, and the measures it uses to reduce the activities of maritime transport in its recognized, protected areas.

A. *PSSA Designation: Resolution 982(24)*

Resolution 982(24), adopted in December of 2005, can be regarded as a revision of Appendix II of Resolution 927(22).³⁹ Still, Resolution 982(24) relates exclusively to the directives that identify and designate areas as PSSAs and is no longer coupled with guidelines establishing the designation of special areas under MARPOL.⁴⁰

In accordance with Resolution 982(24), entitled “Revised Guidelines for the Identification and Designation of Particularly Sensitive Sea Areas,” a PSSA is defined as “an area that needs special protection through action by [the] IMO because of its significance for recognized ecological, socio-economic, or scientific attributes where such attributes may be vulnerable to damage by international shipping activities.”⁴¹ This definition requires four essential elements in order for the IMO to characterize an area a PSSA: (1) IMO competence as exhibited by its authority; (2) the ability to ascertain the characteristics of the area(s) concerned; (3) an assessment of the precariousness of maritime transport activity; and (4) an implicit understanding of the measures associated with the recognition of a PSSA.

The originality of Resolution 982(24) lies in the IMO’s choice and implementation of PSSA measures. Within this framework, the IMO will have to fulfill three missions: (1) to inform nation states of the possible creation of PSSAs; (2) to guarantee the balance between official interests and private interests; and (3) to establish criteria for evaluating the appropriateness of a state’s request.⁴²

The authority of the IMO is essential to support the drawn-out and complex PSSA designation process. A nation state, or several states wishing to have a zone recognized as a PSSA, must submit a request to the MEPC in accordance with the requirements of Resolution 982(24).⁴³ The

39. See A. Res. 24/982, *supra* note 4; A. Res. 22/927, *supra* note 28. Resolution 982(24) notes that Resolution 927(24) recognizes “the need to clarify and, where appropriate strengthen” previously established PSSA procedures, and revokes Annex 2 of Resolution 927(22). A. Res. 24/982, *supra* note 4.

40. See A. Res. 24/982, *supra* note 4; A. Res. 22/927, *supra* note 28.

41. A. Res. 24/982, *supra* note 4, ¶ 1.2.

42. *Id.* ¶ 1.4.

43. *Id.* ¶ 3.2.

request for the designation of a PSSA must include a proposal of the protective measures that will be associated with the area's status.⁴⁴ The MEPC then handles the request internally and can, following its evaluation, identify the zone as a PSSA "in principle."⁴⁵ Next, the request will be sent to the MSC or the IMO Assembly for approval. Only after acceptance by the MSC or Assembly will the PSSA be recognized by the MEPC.⁴⁶ To avoid this dense and multifaceted process, some argue that states should simply submit proposals to the IMO to apply for navigation or reporting systems in sea areas that have not yet been recognized as PSSAs.⁴⁷ Notably, in order to further simplify the procedure, the United States sent a proposal to the MEPC on March 7, 2006 suggesting that a PSSA review form be adopted.⁴⁸

As mandated by the definition of a PSSA, in order for a PSSA to be recognized, and for coastal states to be able to develop specific regulations in order to protect the area, coastal states must show an area's special, relevant characteristics. This is accomplished by meeting one of three criteria.⁴⁹

First, there is an ecological criterion. Assessment of the incompatibility of conserving the area's ecosystem against uncontrolled maritime activity is made using such factors as uniqueness and rarity, importance as a habitat, dependence of flora and fauna on the surrounding ecosystem, representative character as a specific ecosystem, diversity, productivity, capacity as a spawning ground, lack of human degradation, integrity, fragility, and biogeographic importance.⁵⁰

Next, the socio-economic criterion takes into account the fundamental use of maritime resources, the interest in tourism or leisure, and the dependence level of the local population on the marine environment. This

44. *Id.* ¶ 7.5.2.

45. *Id.* ¶ 8.3.2.

46. *Id.* ¶ 8.3.4.

47. Roberts, *supra* note 10, at 146 ("PSSA designation . . . may entail a greater amount of time and procedural hurdles than simply submitting a proposal for, say, a routing or reporting system.").

48. Res. 55/8, M.E.P.C. Doc. RES/55/8 (June 1, 2006). "Such a review form will facilitate a robust review of a proposal and ensure that the Revised Guidelines for the Identification and Designation of PSSAs (A 982(24)) are fulfilled." IMO, IMO AGENDA PREVIEW DOCUMENT: MEPC SESSION 55, 24 (2006), available at <http://www.lr.org/NR/rdonlyres/4EF704CD-68A7-4263-A06A-9C32F164A9D3/49842/LRMEPC55agendapreviewdocument1.pdf>.

49. A. Res. 24/982, *supra* note 4, ¶ 4.4.

50. *Id.* ¶¶ 4.4.1-4.4.11.

is done by using factors such as the social or economic dependence of man, and cultural inheritance.⁵¹

Finally, an area may be designated using scientific criterion. Under this criterion an area must demonstrate its importance for furthering research, monitoring studies, or education.⁵²

Since many maritime zones have special characteristics, the criteria of Resolution 982(24) would allow many zones to be regarded as PSSAs. The objective here seems to be to adopt a broad definition in order to facilitate the recognition of such zones.

In addition to meeting one of the criteria listed above, a zone will be recognized as a PSSA if it is particularly vulnerable to international shipping activities. Resolution 982(24) clearly defines the consequences that can result directly from maritime transport: operational discharges; accidental or intentional pollution;⁵³ and physical damages caused to habitats or marine organisms.⁵⁴ Whether a zone can be navigated with ease is assessed by taking into account the area's characteristics in relation to sea traffic traveling through it. This is done by looking at such operational factors as types of ships, characteristics of the traffic (such as volume and concentration), and the harmful substances that are being transported.⁵⁵ Natural factors, such as hydrographical, oceanographic, and meteorological conditions, are also taken into account.⁵⁶

The effects of the measures associated with PSSA designation can vary.⁵⁷ As framed in Annex Section 6.1 of Resolution 982(24), these associated measures must have been or must be accepted by either the IMO Assembly or by the MSC.⁵⁸ Additionally, the associated protective measures are restrictive in so far as they must conform to: measures envisaged by MARPOL; measures for the organization of traffic and system

51. *Id.* ¶¶ 4.4.12-4.4.14.

52. *Id.*

53. *Id.* ¶ 2.1. The resolution explains further that “[s]uch [pollutants] include oil and oily mixtures, noxious liquid substances, sewage, garbage, noxious solid substances, anti-fouling systems, harmful aquatic organisms and pathogens, and even noise.” *Id.* ¶ 2.2.

54. *Id.* ¶ 2.1. Again, the resolution goes further to explain that habitats may be harmed by the grounding of ships and as well as when ships strike large marine mammals such as whales. *Id.* ¶ 2.2.

55. *Id.* ¶¶ 5.1.1-5.1.4.

56. *Id.* ¶¶ 5.1.5-5.1.7.

57. *Id.* ¶ 7.5.2.4. (“These measures may include ships routing measures; reporting requirements discharge restrictions; operational criteria; and prohibited activities, and should be specifically tailored to meet the need of the area to prevent, reduce, or eliminate the identified vulnerability of the area from international shipping activities.”).

58. *Id.* ¶ 6.1.1.

of reports as understood under the International Convention for the Safety of Life at Sea (SOLAS); and measures aimed at protecting maritime zones against damage caused to the environment by vessels, provided that these measures have an identifiable legal basis.⁵⁹

Some PSSAs are quite diverse; therefore associated measures must be flexible. To achieve this flexibility, Resolution 982(24) allows for different levels of restrictions. Particular measures may be combined in different ways in order to guarantee that the measures are adapted to the potential risk specific to the area in question, while at the same time assuring an appropriate balance between environmental protection and maritime transport. This balance is fundamental to PSSA designation, although it may result in only the “minimum protection,” which is the common standard for a PSSA.⁶⁰

The measures implemented by an area being designated a PSSA are evolutionary. Thus, the measures can be modified, supplemented, or removed as long as the IMO agrees to the relevant changes. For instance, in the case of the Galápagos archipelago, Ecuador was able to submit a request to IMO authorities, which asked for a revision of its PSSA protection system through implementation of a new mandatory ship reporting system and a new device for the separation of traffic.⁶¹

Finally, when an area is recognized as a PSSA, the protective measures approved by the IMO are recorded on charts, in accordance with the symbols and the methods of the International Hydrographic Organization.⁶² Thereafter, member states are encouraged to “take steps to ensure that vessels flying their flag comply with the associated protective measures adopted to protect the designated PSSA,” and to take appropriate action against violators.⁶³

B. Contributions and Limits of Model PSSA

The PSSA concept was meant to act as a comprehensive mode of protection for designated marine areas; it was not intended as a conservation tool that would simply supplement the already existing marine conservation

59. *Id.* ¶¶ 6.1.1-6.1.3.

60. Tullio Scovazzi, *Marine Protected Areas on the High Seas: Some Legal and Policy Considerations*, 19 INT’L. J. MARINE & COASTAL L. 1, 7 (2004); *see also* Rois Masarro, *L’identification d’une Aire Comme Zone Maritime Particulièrement Sensible: Ses Conséquences pour la Navigation*, in EUROPE AND THE SEA: FISHERIES, NAVIGATION AND THE MARINE ENVIRONMENT 393, 404 (Emile Bruylant ed., 2005).

61. Res. 82/229, M.S.C. Doc. RES/82/229 (Dec. 5, 2006).

62. A. Res. 24/982, *supra* note 4, ¶ 9.1.

63. *Id.* ¶ 9.3.

models. Rather, the PSSA concept presents important advantages compared to competing models of protection. Nonetheless, the main shortcoming of the concept of PSSA is that it is not legally binding and, therefore, does not allow nation states to take advantage of all the opportunities developed in Resolution 982(24).

1. A Complete Model Compared to Other Concepts of Environmental Protection

A comparison of all marine protection models would be too lengthy to undertake in this review. However, it is possible to compare the concept of PSSA with a similar national model and with “special areas” as defined in the MARPOL convention.

a. The British Marine Environmental High Risk Areas Concept

In January of 1993, the British began a study to determine whether any further measures were either appropriate or feasible to protect the United Kingdom’s coastline from pollution from merchant shipping. The study culminated with recommendations that were embodied in a lengthy book, commonly referred to as the Donaldson Report.⁶⁴ Notably, the inquiry began in direct response to the catastrophe of Braer, which occurred in the same month and year as the study.⁶⁵ The Liberian registered tanker Braer sustained damage to her deck during adverse weather, which led to the contamination of her diesel oil supply with seawater.⁶⁶ After the contamination caused a power outage on the vessel, the crew requested towage assistance, but the tug vessel did not arrive until after the crew had been evacuated.⁶⁷ Attempts to prevent the Braer from grounding were futile, and she ultimately ran aground on Garths Ness, an area of the coast of the Shetland Islands.⁶⁸ The rocky nature of this area inhibited cleanup and allowed the vessel’s 85,000 ton crude oil cargo to leak out into the North Sea.⁶⁹

64. SECRETARY OF STATE FOR TRANSPORT, SAFER SHIPS, CLEANER SEAS: REPORT OF LORD DONALDSON’S INQUIRY INTO THE PREVENTION OF POLLUTION FROM MERCHANT SHIPPING (1994) [hereinafter LORD DONALDSON’S REPORT].

65. *Id.* at 1.

66. *Id.* at 465.

67. *Id.* at 466.

68. *Id.* at 1.

69. *Id.*

Following the catastrophe of Braer, and as recommended by the Donaldson Report, the British established Marine Environmental High Risk Areas (MEHRAs),⁷⁰ in an effort to prevent significant environmental damage from possible future wrecks.⁷¹ MEHRAs were designed to identify areas that are both environmentally sensitive and vulnerable to shipping traffic.⁷² Practically, MEHRAs “provide a distinct educational and awareness tool designed to alert mariners to areas hazardous to navigation and at risk of exceptional environmental damage.”⁷³ MEHRA measures include binding requirements for marine traffic organization and accident response equipment that must be in place in the event of a wreck.⁷⁴ Additionally, this model of protection is extremely successful at collecting information, which ensures that the protective requirements are followed.

However, MEHRAs designation is a far less expansive mode of protection compared to PSSAs. Specifically, MEHRAs can be recognized only within the limits of the territorial sea of the enacting coastal state, can consist only of standards adopted by that state, and can apply only to ships that fly the flag of the state. Conversely, PSSA designation is available to any coastal state interested in submitting a request to the IMO, and is internationally recognized.

Although effective in their own right, when combined these two conservation models can provide both the flexible criteria and expansive nature of PSSA designation, as well as the binding requirements for shipping safety provided by MEHRAs. The GBR is an important and pragmatic example of the PSSA concept working together with the MEHRA model. Several years after the IMO designated the GBR a PSSA, the government of Australia commissioned a review of ship safety pollution prevention measures for the GBR and its adjoining areas.⁷⁵ In July of 2001, an executive summary was issued, which recommended that several specific areas within and around the GBR be declared as MEHRAs.⁷⁶ Because the

70. *Id.* at 219.

71. *Id.* at 4.

72. *Id.* at 219.

73. GREAT BARRIER REEF SHIPPING REVIEW STEERING COMMITTEE, REVIEW OF SHIP SAFETY AND POLLUTION PREVENTION MEASURES IN THE GREAT BARRIER REEF 45 (2001), http://www.amsa.gov.au/Shipping_Safety/Great_Barrier_Reef_and_Torres_Strait/GBR_Review_Report/Documents/gbr.pdf [hereinafter GBR STEERING COMMITTEE REVIEW].

74. See UNITED KINGDOM DEPARTMENT OF THE ENVIRONMENT TRANSPORT AND THE REGIONS, IDENTIFICATION OF MARINE ENVIRONMENTAL HIGH RISK AREAS (MEHRA'S) IN THE UK (1999).

75. GBR STEERING COMMITTEE REVIEW, *supra* note 73, at 1.

76. *Id.* at 46. The executive summary also cited a previous study that culminated a year earlier, which recommended that the following regions be declared MEHRAs: Prince of

GBR's PSSA designation was based on "environmental sensitivity and not risk to navigation," it was determined that the establishment of MEHRAs in this sensitive area would provide the added protection necessary to protect the GBR from damage by vessel traffic.⁷⁷

b. MARPOL's Special Marine Surfaces

The MARPOL convention established "special marine surfaces," which is another international maritime protective scheme and rather similar to the PSSA concept. Although the protective measures established by the MARPOL convention carry significant authority due to their jurisdictional reach,⁷⁸ Resolution 982(24) nevertheless allows for a wider range of possibilities with a more complete model for maritime areas requiring special protection.

As outlined in Resolution 720(17), MARPOL defines a "special area" as:

[A] sea area where for recognized technical reasons in relation to its oceanographical and ecological condition and to the particular character of its traffic the adoption of special mandatory methods for the prevention of sea pollution by oil, noxious liquid substances, or garbage, as applicable, is required.⁷⁹

To be designated a special marine surface, an area must meet three cumulative criteria within the meaning of the MARPOL convention: oceanographic,⁸⁰

Wales Channel, Great North East Channel, Inner Shipping Route between Cape Flattery and Torres Strait, Witsunday Islands and associated passages, Hydrographers Passage, and Moreton Bay. *Id.* at iii-xxii.

77. *Id.* at 45.

78. Generally, a signatory country to the MARPOL convention subjects not only its vessels to MARPOL mandates, but also vessels that enter the signatory country's waters and yet fly the flag of another country. LORD DONALDSON'S REPORT, *supra* note 64, at 44.

79. A. Res. 17/720, *supra* note 1, ¶ 2.1.1.

80. A. Res. 22/927, *supra* note 28, ¶ 2.4. Specifically, this Resolution describes the oceanographic conditions of an area as:

[C]onditions [that] may cause the concentration or retention of harmful substances in the waters or sediments of the area, including:

- (1) particular circulation patterns (e.g. convergence zones and gyres) or temperature and salinity stratification;
- (2) long residence time caused by low flushing rates;
- (3) extreme ice state; and
- (4) adverse wind conditions.

Id.

ecological,⁸¹ and vessel traffic characteristics.⁸² Conversely, in order for an area to be recognized as a PSSA, it only needs to satisfy one of the ecological, scientific, or socio-economic criteria mentioned above.⁸³ Thus, instead of limiting its availability for protection by requiring all three criteria to be met, the PSSA concept widens the possibility that a particularly vulnerable sea area will be protected against an intense activity of sea transport. Further, PSSA designation occurs using a larger number and more diversified range of measures that are intended to ensure effective protection and adaptation for the sea areas concerned. On the other hand, the special area definition that is provided in MARPOL describes a very specific zone, which relates only to closed or semi-closed sea areas.

Again, it is clear that the measures that coastal states may adopt within the PSSA framework are more diversified than those measures identified in the special areas framework of MARPOL. Furthermore, the MARPOL convention stipulates that special areas should be designated using only conventional measures, and that these measures should not undermine the principle of the right of innocent passage through territorial seas.⁸⁴

An exhaustive inventory of all the measures developed in national and international law to ensure environmental protection within a particular sea area is unnecessary to understand that each measure is an adopted response to a particular concern. Nevertheless, the creation of the PSSA concept demonstrates the desire of coastal states to go further than the existing environmental protection measures, and to enlarge the current consensus of

81. *Id.* ¶ 2.5. The ecological conditions of an area are:

Conditions indicating that protection of the area from harmful substances is needed to preserve:

- (1) depleted, threatened or endangered marine species;
- (2) areas of high natural productivity (such as fronts, upwelling areas, gyres);
- (3) spawning, breeding and nursery areas for important marine species and areas representing migratory routes for sea-birds and marine mammals;
- (4) rare and fragile ecosystems such as coral reefs, mangroves, seagrass beds and wetlands; and
- (5) critical habitats for marine resources including fish stocks and/or areas of critical importance for the support of large marine ecosystems.

Id.

82. *Id.* ¶ 2.6. Vessel traffic characteristics are described as:

The sea area [that] is used by ships to an extent that the discharge of harmful substances by ships when operating in accordance with the requirements of MARPOL 73/78 for areas other than Special Areas would be unacceptable in the light of the existing oceanographic and ecological conditions in the area.

Id.

83. A. Res. 24/982, *supra* note 4, ¶ 4.4.

84. Roberts, *supra* note 10, at 137-38.

standards that are necessary and effective to promote environmental protection.

2. The PSSA Concept: Limited by the Absence of a Complete Legal Basis

Resolution 982(24) remains legally non-binding because it was not included in the convention materials adopted by the IMO. Recommendations made pursuant to this Resolution, therefore, only have a partial legal basis as part of the UNCLOS provisions. The consensual legal basis for the PSSA concept, however, enables a broad application of the measures adopted under the aegis of the IMO. In addition, the recommendations of the IMO undoubtedly are strengthened by the fact that states have freely accepted them.

If Resolution 982(24) were given the force of law, it would give rise to obligations on the nations that ratified UNCLOS.⁸⁵ Alternatively, Resolution 982(24) could be recognized as any other international law.

Further, it appears that Resolution 982(24) can work in conjunction with UNCLOS Articles 192 and 194. First, Article 192 states that coastal nations have a general “obligation to protect and preserve the marine environment.”⁸⁶ Second, Article 194 explains the measures that coastal nations should use in order to prevent, reduce, and control the pollution of marine environments.⁸⁷ Certainly, as outlined by these articles, UNCLOS envisions that each coastal state has a general obligation to protect the maritime environment and biodiversity.⁸⁸

However, a closer look reveals that the PSSA concept seems to have been developed partially pursuant to Article 211, Paragraph 6(a) of UNCLOS:

Where the 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 . . . the coastal States may, for that area, adopt

85. Res. 43/6/2 M.E.P.C. Doc. RES/43/6/2 (June 28-July 2, 1999) (Relationship between the 1982 United Nations Convention on the Law of the Sea and the IMO guidelines for the Designation of Special Areas and the Identification of Particularly Sensitive Sea Areas); ÜNLÜ, *supra* note 3, at 3-4 (2004).

86. UNCLOS, *supra* note 6, at Part XII, art. 192.

87. *Id.* at Part XV, art. 194.

88. Roberts, *supra* note 10, at 139.

laws and regulations for the prevention, reduction and control of pollution from vessels⁸⁹

Even though Article 211 only constitutes a partial basis for the PSSA concept, it defines the right of coastal states to develop laws and regulations for a given area insofar as the concerned sea area runs the risk of deterioration due to maritime activities.

However, UNCLOS provisions differ from Resolution 982(24) in several respects. For example, Resolution 982(24) mentions ecological, socio-economic, educational, and archaeological criteria, whereas UNCLOS only refers to economic and ecological criteria.⁹⁰

Hence, in order to justify the criteria calling for special protection, PSSA provisions have to rely on other provisions of UNCLOS, such as Article 303, which relates to archaeological and historical objects found at sea.⁹¹ Moreover, Article 211(6)(a) only relates to areas within the limits of the exclusive economic zone, whereas the concept of PSSA opens the possibility for a state to ask for the protection of an area located both within and beyond its territory.⁹²

Since Article 211 does not provide an appropriate legal basis for Resolution 982(24), one can imagine that the PSSA concept could be inserted into international customary law.⁹³ This would give the PSSA obligatory value, especially if it became regular practice for coastal states to recognize the concept's force of law. The objective would be to allow the emergence of a standard as general practice, without requiring all states to individually assent.

After fifteen years, the PSSA concept has acted as a safeguard to exceptional sites by providing a satisfactory level of protection for these sea areas. The PSSA provisions are broadly accepted, as they benefit from both the international legitimacy of the IMO in international maritime transport and from widespread identification through charts used aboard ships. Resolution 982(24), however, was not exploited to its maximum potential. For example, there has yet to be a PSSA recognized beyond the EEZ or one recognized on exclusively archaeological criteria. In these situations, the legal basis of the concept appears inappropriate.

89. UNCLOS, *supra* note 6, at Part XII, art. 211(6)(a).

90. *Id.* at Part XII.

91. *Id.* at Part XVII, art. 303.

92. A. Res. 24/982 *supra* note 4, ¶ 4.3. "The criteria relate to PSSAs within and beyond the limits of the territorial sea. They can be used by IMO to designate PSSAs beyond the territorial sea with a view to the adoption of international protective measures regarding pollution and other damage caused by ships." *Id.*

93. *See* Scovazzi, *supra* note 60, at 5.

III. CURRENT PSSAs: AN EVALUATION

Since 2002, the PSSA concept has been widely applied because of the clarification and simplification of reference standards to indicate a zone as a PSSA. Between 1991 and 2002 only two sea areas were given this status; today, there are eleven PSSAs.

<u>PSSA</u>	<u>States</u>	<u>Month & Year</u>	<u>Pilot Program</u>	<u>Separated Shipping Traffic Lanes</u>	<u>Areas to Avoid</u>	<u>Reporting</u>	<u>No Anchoring Area</u>	<u>Special Discharge Restriction</u>
GREAT BARRIER REEF	Australia	11/1990	X			X		
SABAN CAMAGUEY ARCHIPELAGO	Cuba	09/1997		X	X			X
MALPELO ISLAND	Colombia	03/2002			X			
THE SEA AROUND THE FLORIDA KEYS	Etats-Unis	03/2002			X		X	
WADDEN SEA	The Netherlands, Denmark, Germany	10/2002	X	X		X		
PARACAS NATIONAL RESERVE	Peru	07/2003			X			
WESTERN EUROPEAN WATERS	Belgium, France, Ireland, Portugal, Spain, United Kingdom	10/2004				X		
CANARY ISLANDS	Spain	10/2004		X	X	X		
BALTIC SEA AREAS	Denmark, Estonia, Finland, Germany, Lithuania, Poland, Sweden	07/2005	X	X	X			
GALAPAGOS ARCHIPELAGO	Ecuador	07/2005			X			

Table 1: Global Location of PSSAs⁹⁴

94. Julian Roberts et al., *The Western European PSSA Proposal: A Politically Sensitive Sea Area*, 29 MARINE POL'Y 431, 433 (2005); Australian Maritime Safety Authority,

Here, it should be highlighted that in recent years, the non-binding nature of PSSAs has been developed gradually. The fact that various PSSAs present an array of environmental protection measures shows that, in each case, specific guidelines have been adapted for the sea area concerned. Indeed, there is a broad spectrum of associated measures corresponding to the potential environmental risks. Also, there is a need to strike a balance between effective protection and freedom of navigation.

The protective measures designated for each PSSA are adaptable to evolving risks and circumstances. Further, the states can submit new proposals to IMO authorities in order to reinforce or increase the effectiveness of the protective measures governing their PSSA. This occurred, for example, in 2005 with the widening of the GBR to the Strait of Torres,⁹⁵ and also in the PSSA of the Galapagos Islands, when an obligatory system of reporting was introduced to prevent harm in this particularly precarious sea area.

Due to membership requirements, IMO member states are obliged to ensure that the ships flying their flag conform to the PSSA guidelines as mandated by the IMO.⁹⁶ To this effect, the organization advises the implementation of a compliance program containing:

- Reporting procedures and incentives, including incentives for self-reporting;
- Detection and policing “patrols”;
- Compliance monitoring through routine inspections, surveys, or examinations;
- Adequate investigations of violations reported or otherwise detected;
- A system of adequate sanctions in respect of violations;
- Education and public awareness programs; and
- Co-operation and co-ordination with other State parties.⁹⁷

Particularly Sensitive Sea Areas Fact Sheet, <http://www.amsa.gov.au/publications/fact%5Fsheets/psa%5Ffact.pdf> (last visited Nov. 1, 2007).

95. Res. 53/133, Annex 21, M.E.P.C. Doc. RES/53/133/Annex/21 (July 22, 2005) (Designation of the Torres Strait as an Extension of the Great Barrier Reef Particularly Sensitive Sea Area).

96. Australian Maritime Safety Authority, *supra* note 94.

97. *Id.*

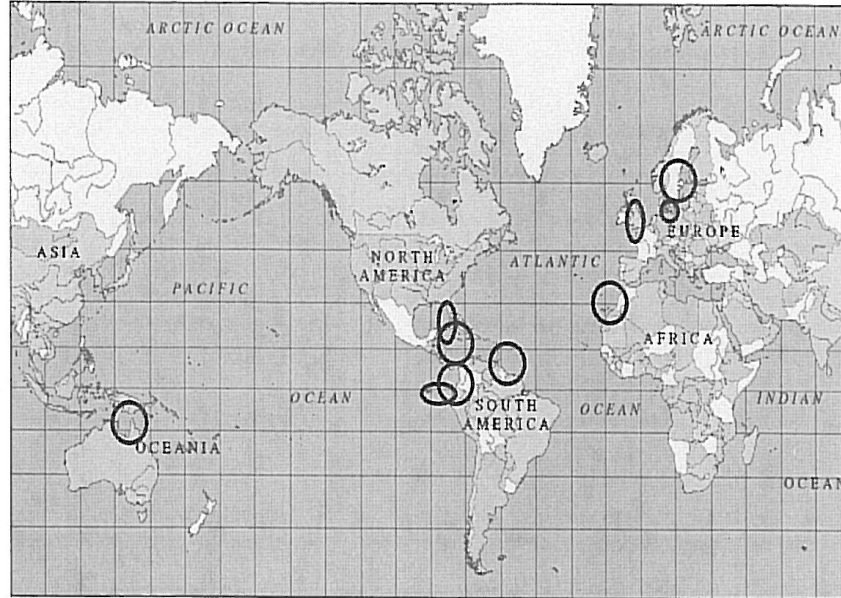


Figure 1: PSSA Locations

The GBR is the oldest recognized PSSA and conceals many sea treasures. Its biodiversity and exceptional inherent characteristics have been a major concern for the Australian government throughout the 20th century. In response to these concerns, IMO Assembly Resolution 619(15) recommended that all ships equal to or greater than 100 meters in length, all tankers, and all chemical product and gas carriers, whatever their dimensions, use the piloting services provided on the coast of Queensland when such vessels navigate through the Strait of Torres, the North-East Channel, and Hydrographers Passage.⁹⁸ Subsequent to the Resolution's adoption, there was a noticeable increase in the request for pilots. Interestingly, this pilot service program would not be triggered if Australia only expected approximately 200 ships per year to traverse these waters.⁹⁹ Therefore, Australia petitioned the IMO in 1990 to designate the GBR a PSSA because otherwise the risk of environmental harm would be defined only through the proportional increase in vessel traffic.¹⁰⁰

The sea areas containing the GBR are extremely difficult to navigate because of water depth, width of the navigational way, and certain weather conditions. Hence, navigational safety and environmental protection would

98. A. Res. 15/619, *supra* note 20.

99. A. Res. 17/720 *supra* note 1.

100. Res. 30/24 *supra* note 17.

increase in this zone if vessels were required to navigate with a qualified pilot. According to the reports and statistics of the Australian Maritime Safety Authority, it has been noted that there was an increase in utilization of the pilot program as the environmental risks to the GBR became more severe. This is demonstrated by an analysis of the cargo released during various shipwrecks.¹⁰¹

Even though the risks have decreased, they still persist. In 2000, the Australian and New Guinea governments submitted a request for an extension of their PSSA zones and for modification of associated protection measures. Undoubtedly, a protective navigational traffic measure and an obligatory compliance system should be established.

101. D. HOLDEN, K. ROSS & J. MANSELL, THE GREAT BARRIER REEF REVIEW OF SAFETY INITIATIVES 17-18 (2000), available at http://www.amsa.gov.au/Publications/shipping/The_Great_Barrier_Reef_Review_of_Safety_Initiatives.pdf.

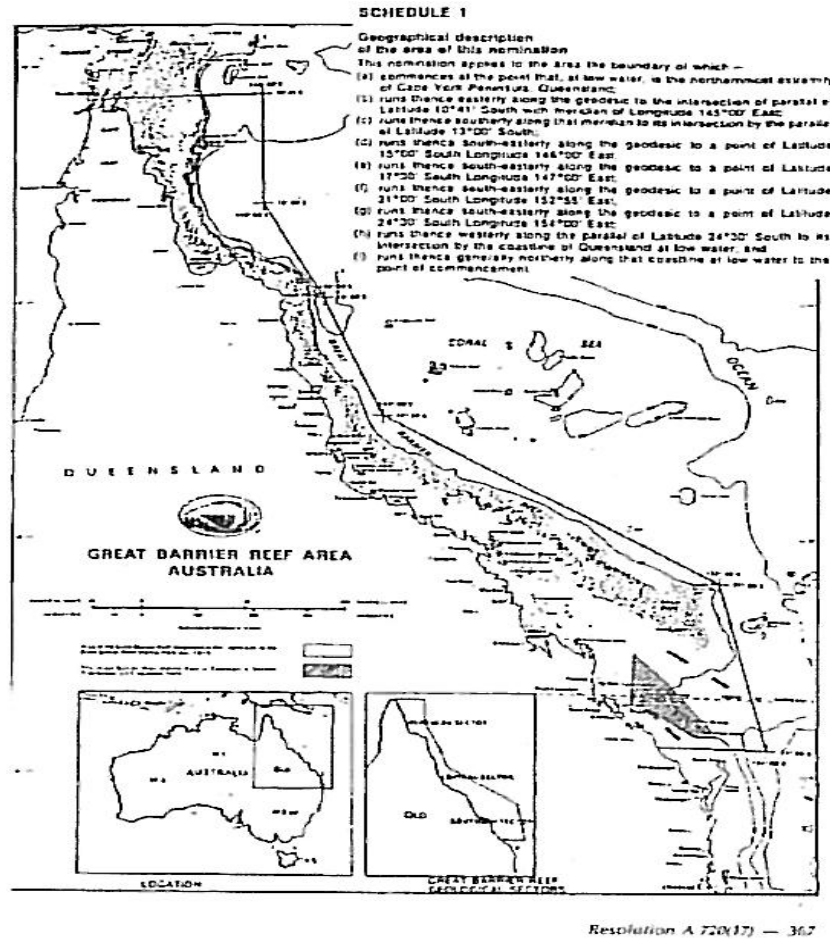


Figure 2: Great Barrier Reef Area, Australia.¹⁰²

102. A. Res. 17/720, *supra* note 1.

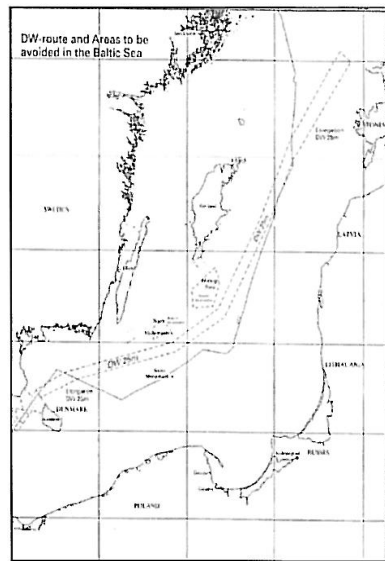


Figure 3: Baltic Sea Area.¹⁰³

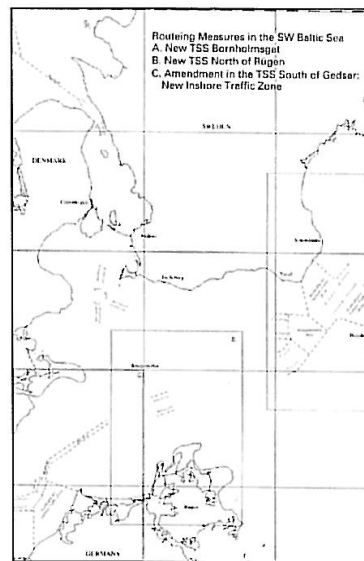


Figure 4: Routing Measures.¹⁰⁴

The Baltic Sea is a relatively young PSSA zone, having obtained this status in 2005.¹⁰⁵ Thus, certain new measures must be applied to increase environmental protection and avoid shipping accidents in this protected sea area. The agreement made between the coastal states of the Baltic Sea, with the exception of Russia, mandated that an action plan be developed to govern and practically oversee this sea area. The mandate's main objective has been to gather all available data, including pollution, intensity of the traffic, and equipment of the ships, in order to finalize the development of measures adopted to protect the Baltic Sea.

Establishment of the Baltic Sea as a PSSA incorporated a precise vision for future protective measures that should be considered in the region.¹⁰⁶ Generally, these coastal states have sought to reconcile the region's environmental protection concerns with the promotion of economic

103. Res. 53/136, *supra* note 36, Add.2.

104. *Id.*

105. *Id.*

106. BALTIC MASTER, BALTIC MASTER REPORT OF FIRST RESULTS 18 (2006), available at http://www.balticmaster.org/media/files/file_342.pdf.

transport in this zone, especially the highly lucrative oil transport coming from Russia by way of the Gulf of Finland.

IV. FUTURE PROSPECTS FOR THE PSSA

Many highly traveled sea areas are still excessively exposed to the risks resulting from maritime transport. The Mediterranean Sea, the Saba Bank Atoll, and the Banc d'Arguin National Park should be recognized as PSSAs.

In the Mediterranean Sea, problems have arisen from the large number of sea areas that individually specify different protective measures. This is coupled with the difficulty of the relevant coastal states reaching a consensus that would protect the Mediterranean Sea as a whole.

At the seventh meeting of the Regional Activity Centre for Specially Protected Areas (RAC/SPA) held in Seville, Spain from April 30 to June 2 of 2004, the RAC/SPA and the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) jointly presented a proposal to the MEPC requesting that the Specially Protected Area of Mediterranean Importance (SPAMI List) be designated as a PSSA.¹⁰⁷ The objective of this designation is to supplement the protection already developed in the Mediterranean Sea. Still, it will be necessary to implement the accepted IMO associated measures, such as navigation restrictions for certain ships in certain areas and navigation tables that reflect the appearance of protected zones. Recognition of a PSSA in the Mediterranean would also lead to the homogenization of regional and international standards based on the consensus reached among professionals in maritime transport.

The discovery of new species on the Saba Bank Atoll, which is 250 kilometers southeast of Puerto Rico in the Caribbean Sea, makes this area suitable for PSSA status.¹⁰⁸ Indeed, the Dutch government of the Antilles and the Smithsonian Museum of Natural History have already indexed approximately 200 new fish species, of which only fifty had previously been observed in this zone.¹⁰⁹ However, increased oil transport through this region, due to the proximity of its deposit on Eustatius Island, has caused and is causing irreversible damage to this fragile ecosystem according to scientists.¹¹⁰ An appropriate measure would be to establish zones where

107. Scovazzi, *supra* note 60, at 11-13.

108. Science Daily, *Expedition Discovers Marine Treasures: New Species of Fish, Seaweeds Found on Caribbean's Saba Bank*, <http://www.sciencedaily.com/releases/2006/02/060214080938.htm> (last visited Oct. 27, 2007).

109. *Id.*

110. *Id.*

dumping is prohibited in order to prevent further deterioration of the seabed. Moreover, the maritime activity is of primary importance for the indigenous populations prospering from traditional fishing methods. Thus, to propose the designation of this large sea area as a PSSA, scientists still have to collect and analyze data concerning this area.¹¹¹

The unique nature of the Banc d'Arguin¹¹² ecosystem on the Mauritania coasts is due to the depth of its cold water, which is extremely rich in nutrients from upwelling. The conditions are ideal for the growth and maturity of marine life: water birds, fish, marine invertebrates and mammals. This sea area is located on the twentieth meridian on both sides and on more than 180 kilometers for a surface of 12,000 kilometers squared, consisting of both terrestrial and maritime zones. A National Park was created there in 1976 to protect the diverse flora and fauna of this area. Although the area presents an array of vegetation, fish and mammals are among the most important fauna of the park. Moreover, several islands shelter archaeological sites of the Neolithic period and vestiges of old civilizations. The indigenous populations remain firmly attached to the rites and traditions of their civilization, and they survive mainly from fishing migrating fish.¹¹³ The sea traffic on the Atlantic frontage of Africa is very important and as the risks for this ecosystem and its populations grow, so do the justifications for requesting that the MEPC designate this area as a PSSA. This exact procedure was recommended to the Mauritanian government by UNESCO.¹¹⁴

The continuing expansion of the PSSA concept and its usage by several coastal states and international organizations shows this concept's importance in the world's growing concern of protecting the most important and fragile sea areas. The protective regime adopted for the Banc d'Arguin ecosystem should lend to even more of an understanding in the usage of PSSA designations and lead to more coastal states requesting this protective veil for their fragile sea areas.

111. Conservation International, *Expedition Discovers Marine Treasures in Netherlands Antilles*, http://www.conservation.org/xp/news/press_releases/2006/021406.xml (last visited Nov. 1, 2007).

112. Parc National du Banc d'Arguin (PNBA), *Découverte—Paysages*, <http://www.mauritania.mr/pnba/paysages.htm> (last visited Nov. 2, 2007) (Fr.).

113. United Nations Environmental Program – World Conservation Monitoring Centre (UNEP-WCMC), *Protected Areas and World Heritage: Banc d'Arguin National Park, Mauritania*, <http://www.unep-wcmc.org/sites/wh/bancd%27ar.html> (last visited Nov. 2, 2007).

114. United Nations Educational, Scientific, and Cultural Organization (UNESCO), *Banc d'Arguin National Park*, <http://whc.unesco.org/en/list/506/?=&> (last visited Nov. 2, 2007).