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# Can Marinas Qualify as Places of Refuge?

Ranka Petrinović, Nikola Mandić

This paper deals with marinas as potential places of refuge. A place of refuge is a port, a part of a port, a sheltered wharf or anchorage, or another sheltered area where temporary accommodation of vessels and marine facilities is possible in order to render assistance or avoid potential threats to humans, ships and the environment. Marinas, as the most important type of nautical port, are suitable for smaller vessels. In countries like the Republic of Croatia, where the development of nautical tourism is of great importance, the obligation of marinas to provide assistance or grant access to ships in distress needs to be established. Thereby, it is essential to take into account all marina characteristics and compare them with those of other types of ports. In Croatian legislation, places of refuge are regulated by the Ordinance on Places of Refuge compliant with IMO Guidelines A.949 (23) and A.950 (23) and European Directives (2002/59 / EC). The paper analyses the suitability of the marinas as places of refuge for vessels, primarily vessels for nautical tourism.

## KEY WORDS

- ~ Place of refuge
- ~ Marina
- ~ IMO resolution A.949 (23) and A.950 (23)
- ~ EU Directive 2002/59/EC
- ~ Ordinance on Places of Refuge

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## 1. INTRODUCTION

A place of refuge is a port, a part of a port, a sheltered wharf, anchorage or another sheltered area in the inner sea waters or the territorial sea where a ship or a watercraft in distress can find refuge, and where it is less exposed to wind and sea, regardless of whether it sails, floats, or is anchored.

In the broadest sense, a sea port is defined as an area by the sea or directly connected to the sea with developed or undeveloped coast, breakwaters, appliances, plants and other facilities intended for landing, anchoring and protecting ships, yachts and boats, passenger embarkation and disembarkation, cargo loading, unloading, storage and other cargo handling, such as cargo production, refining and completion, as well as other commercial activities related to economy, traffic or technology. (Maritime Law and Seaports Act of the Republic of Croatia, 2003)

Depending on their intended purpose, ports can be divided into ports open to public transport and special purpose ports. Depending on activities performed in special purpose ports, they can be divided into: military ports, nautical ports, industrial ports, shipyard ports, as well as sports, fishing and other comparable ports. (Grabovac and Petrinović, 2006) Nautical tourism activities take place in special purpose ports, primarily in nautical tourism ports. These ports, depending on the type of service provided, can be classified as: anchorages, watercraft storage sites, dry marinas and marinas. Marinas are a part of the water area and coastline specifically constructed and designed to render services like berthing, tourist accommodation in watercraft and similar. (The Ordinance on Classification and Categorization of Ports of Nautical Tourism of the Republic of Croatia, 2008)

Firstly, places of refuge are primarily required for the salvage of ships, especially those whose cargo or large amounts of propulsion fuel might endanger the marine environment of coastal states. However, places of refuge are required by all

vessels, crews or salvors in need of assistance, who are injured or threatened by total destruction.

Pursuant to the International Maritime Organization (IMO) and EU Directives directly or indirectly related to the places of refuge, Croatia has brought its national legislation into conformity with international and EU regulations governing the issue of the places of refuge; in this respect, the Maritime Code 2004, stipulated that the Ministry in charge of maritime affairs (hereinafter referred to as the "Ministry of Maritime Affairs") would issue a special regulation on the places of refuge, which was done in early 2008. The Croatian Ordinance on Places of Refuge prescribes: the procedure for selecting and giving approval for the places of refuge for ships and other vessels and naval facilities in need of assistance, competent bodies and persons responsible for the selection and the approval of places of refuge, conditions to be met by such places, as well as the conditions and manner in which the places of refuge will be used.

The Ordinance defines the place of refuge as a place where temporary berthing accommodation can be provided in order to render assistance or provide safety from potential threats to people, ships and the environment. ([The Croatian Ordinance on Places of Refuge, 2008](#)) The provisions of the Ordinance apply to all maritime facilities except warships, which are required to ask the competent authorities of the Republic of Croatia to allow them refuge. ([The Croatian Ordinance on Places of Refuge, 2008](#)) The Ordinance uses the term vessel in need of assistance or vessel in distress. This includes any maritime facility (other than a warship) that is in a situation which does not require the search and rescue of people, indicating the possibility of loss of ship or the endangerment of the marine environment or navigation. ([The Croatian Ordinance on Places of Refuge, 2008](#)) Since the Ordinance applies to all maritime facilities, it undoubtedly also applies to nautical tourism facilities. A variety of vessels of different characteristics and uses are involved in nautical tourism but what they all have in common is that they are used for sports and recreation.

The question is whether marinas are suitable places of refuge for ships and other watercraft found in distress near the coast. At this point, nautical tourism vessels, normally accommodated in marinas, need to be distinguished from traditional passenger and, in particular, cargo vessels (tankers, etc.) that pose a much bigger threat of pollution of the marine environment. It is especially important to determine if marinas are obliged to grant admission to vessels in distress, a detailed analysis of the Ordinance will reflect on this matter in the text that follows.

No relevant research dealing with the issue of the establishment of the place of refuge for ships in distress, delves either into the status of marina as a special type of port, nor examines the possibility of designating marinas as a place of refuge for ships. ([Qi et al., 2018](#); [Sanchez Ramos, 2017](#))

## 2. CONCEPT OF PLACE OF REFUGE

As stated in the introduction, place of refuge must provide temporary accommodation to vessels with the purpose of providing assistance or avoiding potential harm to humans, ships or the environment. These sites are conceived as particular geographic areas along the coast where damage can be effectively repaired, urgent vessel repairs performed, and cargo or propulsion fuel removed, especially if the safety of the ship or the marine environment is in danger. Suitable geographic areas are facilities with equipment that is either available or easily obtainable, offering services and other conditions suitable for identifying and effectively repairing damage, carrying out emergency repairs and salvaging vessels.

The Croatian concept of area designation, based on the Ordinance on Places of Refuge, is a combination of procedural and partial pre-selection models that presupposes the existence of clear procedures for different cases of ships in distress. It is partially selective because there is a wide list of places of refuge that narrows in iterative procedure on a case-to-case basis. The Ordinance on Places of Refuge does not explicitly mention any port or place of refuge, but rather emphasizes that such a place is determined depending on the situation. Information on possible places of refuge is listed in the Geographical Information System (GIS) application as software support to the decision-making system that contains possible refuge locations and other relevant information.

## 3. INTERNATIONAL LEGAL FRAMEWORK ON PLACES OF REFUGE

The obligation to provide assistance to ships and people in distress at sea has long been based on the principle of international maritime law, as well as on the Maritime Code. This principle is contained in the UN Convention on the Law of the Sea, the International Convention On Salvage, The International Convention on Safety of Life at Sea (SOLAS) and the International Convention on Maritime Search and Rescue (SAR-Convention).

The issue of place of refuge is in direct correlation with the modern right to salvage, since the salvors are the first to confront the issue of coastal states' rejection to provide a place of refuge to the ship being rescued. The provisions of Article 8, which obliges all salvage operation participants to give due consideration to the prevention or reduction of environmental damage, largely comply with the most important reason for the passing of International Convention On Salvage, IMO 1989, which is the protection of the marine environment. ([Petrinović, 2005](#))

The very idea of providing shelter for ships in distress came into consideration by IMO in the late 1980s, when the IMO Legal Committee considered the draft of the Convention on Salvage. At the time, it was suggested that coastal states should be required

to accept ships in distress in their ports. Although the proposal was supported by the representatives of some states, others expressed doubt as to the desirability of incorporating public law regulations into private law conventions such as the Convention on Salvage. They also stressed that the interests of coastal states should be taken into account when making any such provision. Concerns were also expressed as to the impact of such a provision on final decisions by coastal authorities in specific cases where a ship is in distress and poses a threat to the marine environment. (Petrinović and Plančić, 2007)

As a result of these proposals, Article 11 of the Convention on Salvage, which reads as follows: "A State Party shall, whenever regulating or deciding upon matters relating to salvage operations such as admittance to ports of vessels in distress or the provision of facilities to salvors, take into account the need for co-operation between salvors, other interested parties and public authorities in order to ensure the efficient and successful performance of salvage operations for the purpose of saving life or property in danger as well as preventing damage to the environment in general." However, the 2002 International Maritime Committee (CMI) survey showed that no country ratifying the Convention on Salvage has explicitly accepted, in its national law, the legal effects of Article 11 of the Convention. (Petrinović and Škiljo, 2010)

Following several maritime accidents with disastrous consequences for the marine environment, particularly the disasters of tankers Erika and Prestige, the IMO Assembly adopted two resolutions in November 2003 regarding the designation of places of refuge for ships in need of assistance. On December 12, 1999, tanker Erika suffered an accident about 60 nautical miles from the French coast. The tanker broke into two parts and sank. She was carrying 31,000 tons of crude oil. As a result of the accident, approximately 20,000 tons of oil escaped into the sea, and the rest remained in the fore and aft tanks of the sunken ship. The disaster caused a great deal of damage to the marine environment. In November 2002, tanker Prestige suffered structural damage due to inclement weather. After several days of floating in extremely adverse weather, the ship broke into two parts and sank about 60 nautical miles from Galicia's coast (Spain). The ship carried 77,000 tons of crude oil and the majority of cargo (about 63,000 tons) escaped into the sea.

Resolution A. 949 (23), under heading Guidelines on Places of Refuge for Ships in Need of Assistance, applies in cases where a ship needs assistance and there is no threat to human life. (Comite Maritime International, 2003) When the safety of human life is involved, the provisions of the SAR Convention apply. The guidelines of IMO's Resolution A 949 (23) stipulate that, in case of a maritime accident in which the vessel experiences progressive demise, the best way to prevent damage or pollution is to remove its cargo and bunkers (fuel supplies) to facilitate vessel repair. A place of refuge is the most appropriate venue

for the implementation of this process. However, since hauling such a ship to a place of refuge in the vicinity of the coast may endanger the coastal state economically and environmentally, the local authorities and residents of coastal states are opposed to this process. Thus, granting a ship in distress access to a place of refuge could involve a political decision, which can only be taken on a case-to-case basis. In that event, the decision makers should take into consideration both the interests of the ship and the protection of the marine environment. (Petrinović and Škiljo, 2010)

The second Resolution of A.950 (23) Maritime Assistance Services - MAS, recommends all Coastal States to set up a Data Collection Service for granting ships access to the location of a place of refuge. (Ozcayir, 2004) The Republic of Croatia has chosen the existing National Search and Rescue Center (hereinafter referred to as the "National Center") as the service to assist ships at sea. The main tasks of the service are to receive various reports, advice and information required by numerous IMO instruments; to monitor the state of the ship if such a report indicates that an accident may lead to the situation in which the ship needs assistance; to serve as a data collection center if the state of the ship is not alarming and dangerous, but still requires information exchange between the ship and the coastal state (due to the possible deterioration of the ship's state); and to serve as a communication center with private salvage agents involved in salvage operations of a threatened ship if the coastal state decides that all stages of salvage operations should be monitored. It should be noted that the IMO Guidelines on Places of Refuge attempted to strike a balance between the interests of the damaged ship and the interests of the coastal states the environment of which is in danger. (Petrinović and Škiljo, 2010)

Even after the IMO adopted the resolution of 2003 containing guidelines on the designation of places of refuge, the international community continued to address this issue in an attempt to make the idea of the places of refuge more acceptable to coastal states. The CMI Conference, held in Vancouver 2004, devoted a considerable amount of time to places of refuge and opened up many issues that needed to be resolved in the future (from the question of whether there was a requirement under the existing legal regulation for the coastal state to determine such a place, to granting financial guarantees for civil liability in case of environmental pollution).

The EU has been involved in the resolution of the places of refuge issue since the accidents of tankers Erika and Prestige took place in its waters. The disasters of the tankers Erika (1999) and Prestige (2002) urged the EU to drastically reform the existing maritime safety regime aiming at better prevention, especially when it comes to tankers, as they have caused the largest ecological disasters at sea.

On the basis of the Resolution on a Common Maritime Safety Policy of the European Council, the EU Commission

proposed and adopted at least ten directives in the 1993-2002 period. The most important directive for the designation of ports of refuge is Directive 2002/59 / EC of 27 June 2002, which entered into force in February 2005. The aim of this Directive was to establish a computerized maritime surveillance system in maritime areas under EU jurisdiction with a view of increasing the degree of safety of navigation and reducing marine pollution damage caused by maritime accidents. (Petrinović and Plančić, 2007)

This Directive requires EU member states to draw up a detailed plan for cases where ships need assistance, as well as to determine and deliver a list of places of refuge at which ships in distress could be more easily salvaged. The member states had a deadline by the end of 2007 to meet the requirements of the Directive. In this way, the guidelines of IMO Resolution A. 949 (23) on the places of refuge were to become mandatory for EU member states. A great many European countries have acted in accordance with the IMO Guidelines and Directive 2002/59 / EC by declaring the existence of places of refuge, but the data on such sites are usually not publicly available.

In addition to special Directive 2002/59 / EC, the EU has adopted other measures aimed at enhancing the safety of navigation and the protection of the marine environment against pollution from ships in EU waters. Thus, after the Erika tanker incident, the EU prepared two packages of measures called Erika packages I and II. Erika package I aims to narrow the existing legislation in favour of port state control and classification societies, proposing new measures to accelerate the withdrawal of single-hull tankers from the market and improve maritime control in European seas (Ozcayir, 2004), while Erika package II established the European Maritime Safety Agency (EMSA), introduced an information system for improved monitoring of traffic in European waters, and set up an additional compensatory fund for oil pollution damage. (Ozcayir, 2004) In addition, criminal sanctions have been introduced for the infringement of regulations on sea-water pollution from ships (EU Directive 2005/35 / EC on the introduction of sanctions for sea-to-sea pollution). (Grabovac, 2008) In late 2005, the Third Maritime Safety Package (Erika III package) was adopted, which consists of seven proposals that include amendments to the existing directives and relate to: the harmonization of rules and standards of different flag states, classification societies, port state controls, navigation surveillance services, maritime incident investigations, liability and compensation for passenger casualties and shipowners' offshore liability. (Ćorić, 2009)

#### **4. CROATIAN LEGAL FRAMEWORK – ORDINANCE ON PLACES OF REFUGE**

In accordance with IMO guidelines and the provisions of the 2004 Maritime Code, the Croatian Minister of Maritime Affairs

was obliged to establish the places of refuge within three years (by the end of 2007), prescribe the requirements to be met by places of refuge, as well as conditions and procedures for their use. (Grabovac, 2008) In January 2008, the Ministry of Maritime Affairs issued the Ordinance on Places of Refuge, together with the basic execution document – The Plan for Accommodation of Ships in Need of Assistance.

The Ordinance on Places of Refuge prescribes the procedure for deciding on and approving the place of refuge for ships in need of assistance, authorized bodies and persons responsible for the selection and approval of places of refuge, conditions to be met and the manner of use of the places of refuge. The Ordinance also prescribes the content, the manner of adoption and amendment of the Plan for Accommodation of Ships in Need of Assistance. The Plan contains various data required to successfully admit endangered ships into the places of rescue. The pertinent Ordinance provisions prescribe obligations with respect to the compensation for damages and expenses, compulsory insurance or other financial guarantee for ships seeking shelter. The Ordinance also provides for a special and detailed procedure to be followed after the approval of the place of refuge. ([The Croatian Ordinance on Places of Refuge](#))

The procedure for determining the place of refuge has several stages. The request for approval and allocation of a place of refuge must first be submitted by the master of the vessel in distress. The request should contain all the information required to assess the situation of the ship in distress. ([The Croatian Ordinance on Places of Refuge](#)) For an abandoned vessel in distress, the request for approval and allocation of a place of refuge is submitted by the authorized harbour master, and in case a salvage contract was concluded, the request may also be filed by the master of the salvage vessel. A request for the allocation of a place of refuge is received by the National Center which will, upon receipt of the request, confirm the receipt of the same.

In the second phase, the justification behind the approval of the place of refuge is assessed. The National Center assesses the justification behind the request for approval and assigns a place of refuge based on the request submitted, all available data, risk assessment, availability of financial guarantees which must be supplied by the owner or the operator of the ship in distress. If the National Center finds that additional information on the state of the ship and other circumstances is required before the decision is made, and the circumstances permit, a special expert group will be sent to the ship (harbour master, authorized pilot and other experts). The expert group is obliged to submit to the National Center its findings and opinions as soon as possible and propose ways of providing assistance, if necessary. When the National Center estimates that the request is justified, it will designate a place of refuge, in accordance with the Plan for Accommodation of Ships in Need of Assistance. The National Center will propose the rejection of the request ([The](#)

[Croatian Ordinance on Places of Refuge](#)) if it estimates that the request is unfounded or that a ship's accommodation in the port of refuge would pose a greater risk to human life and health and the environment than another mean of assistance.

If the place of refuge is approved, the National Center is obliged to continue to monitor the condition of the ship and other relevant circumstances as long as the ship is in the area under the jurisdiction of the Republic of Croatia, i.e. until the threat has been removed. After assessing the justification of the approval of the place of refuge, the third stage begins, which is the allocation of the place of refuge. On the basis of the proposal of the National Center, the Assistant Minister responsible for the affairs of the navigation and protection of the sea against pollution, with the consent of the Ministry responsible for environmental protection, brings a decision on the allocation of a place of refuge and vessel's admission to a place of refuge, or he/she decides to reject the request for the designation of the place of refuge. If a port is determined as a place of refuge, the port authority or other body managing the port shall admit the ship in the port and provide the assistance required. ([The Croatian Ordinance on Places of Refuge](#)) The provisions of the Ordinance suggest that if a marina is determined as a place of refuge, the concessionaire of the marina is obliged to admit the vessel in distress and provide the necessary assistance. A similar provision is contained in the Ordinance on the Conditions and Manner of Maintaining the Order in Ports and in Other Parts of the Inland Waters and the Territorial Sea of the Republic of Croatia according to which the concessionaire is obliged to give berthing priority to a ship, yacht or boat in distress when human life or safety of navigation are endangered. ([The Ordinance on the Conditions and Manner of Maintaining the Order in Ports and in Other Parts of the Inland Waters and the Territorial Sea of the Republic of Croatia, 2005](#))

The next, fourth and most important stage is the process following the approval of a place of refuge. Once a place of refuge is approved, the harbour master or another authority decides on other assistance measures if necessary. The National Center coordinates all activities related to the provision of assistance to the ship, while the direct execution of these activities at the location of the place of refuge is in the domain of the authorized harbour master. If circumstances require the activation of the Emergency plan in case of unexpected sea pollution ([Emergency plan in case of unexpected sea pollution, 2008](#)), further activities shall be conducted accordingly. When the circumstances leading to the designation of the place of refuge cease to apply, the ship is obliged to leave the place of refuge. The National Center is obliged to keep records of all the circumstances and facts related to the designation of the place of refuge from the moment of the receipt of the request until the ship leaves the jurisdiction of the Republic of Croatia, i.e., until the threat is eliminated. ([The Croatian Ordinance on Places of Refuge](#))

Upon completion of each event leading to the designation of a place of refuge and provision of assistance to a ship in accordance with the provisions of the Ordinance, an expert team appointed by the Minister of Maritime Affairs shall analyse all the circumstances of the case, measures and activities carried out, and if necessary, propose appropriate improvements. At least once a year, the Administration of the Ministry of Maritime Affairs responsible for the safety of navigation and the protection of the sea against pollution from the ships shall organize a training programme to ensure readiness for Ordinance implementation. ([The Croatian Ordinance on Places of Refuge](#))

The Ordinance on Places of Refuge establishes the obligation to enact and regularly update the Plan for Accommodation of Ships in Need of Assistance as a basic execution document. The Plan for Accommodation of Ships in Need of Assistance must contain information on the competent body responsible for receiving and processing the call from the vessel in distress, and on the competent authority or person responsible for the assessment of the circumstances, as well as the selection of a suitable place of refuge and a decision to admit a ship in distress to the chosen place of refuge.

It also contains a summary of factors that enable prompt assessment and decision making, including descriptions of social and environmental factors, and natural conditions of potential places of refuge. The procedure for assessing and deciding on the place of refuge shall be determined on the basis of potential places of refuge. The accurate list of the places of refuge is kept in the Ministry of Maritime Affairs. The Plan must include a list of available resources and devices suitable for provision of assistance, salvage or pollution restriction and removal, as well as procedures for international harmonization and decision-making where applicable, procedures relating to financial guarantees and accountability systems accepted at the place of refuge. ([The Croatian Ordinance on Places of Refuge](#))

#### **4.1. The Plan for Accommodation of Ships in Need of Assistance**

The Plan for Accommodation of Ships in Need of Assistance defines the terms used in the Plan. It details the stages of place of refuge designation prescribed by the Ordinance on Places of Refuge (request for the approval and allocation of a place of refuge, assessment of the justification for the approval of the place of refuge, allocation of appropriate place of refuge and rendering assistance at the place of refuge). According to this Plan, the location of the place of refuge is a port, a part of a port, a sheltered wharf, anchorage or other sheltered area, and the sheltered area is any area in the inland waters or territorial sea where the ship is exposed to minor effects of the wind and sea, regardless of whether it is proceeding, afloat or anchored. ([The Croatian Ordinance on Places of Refuge - The Plan for Accommodation of Ships in Need of Assistance, 2008](#))

#### 4.1.1. Decision on the Choice of a Suitable Place of Refuge

The choice of possible places of refuge, based on the assessment of the circumstances and characteristics of the coast where the ship may be accommodated, is made by the acting Authorized Officer of the National Center. The choice is limited to two, or sometimes three potential places of refuge. (*The Croatian Ordinance on Places of Refuge - The Plan for Accommodation of Ships in Need of Assistance, 2008*) If the marine environment is threatened, the decision to choose a place of refuge along the coast is made only if damage to the environment would be lesser in the event of an unfavourable development near the coast than at open sea, provided that it does not endanger the safety and health of people on the coast. This would enable the crew of the ship to repair defects that could, at some later point in time, pose a significant threat to human safety or contribute to environmental pollution, and facilitate the provision of effective assistance onshore. (*The Croatian Ordinance on Places of Refuge - The Plan for Accommodation of Ships in Need of Assistance, 2008*) A place of refuge along the coast should not be proposed in any other case. A place of refuge along the coast will likewise not be proposed if the request is not grounded or if the master

of the vessel refuses to provide the necessary information and explanations.

After identifying possible places of refuge or determining that there are no such places along the coast, the National Center's officer is required to notify the Assistant Minister thereof, also providing him with a brief account of the proposal in the agreed form, upon which the Assistant Minister will make further decisions and be responsible for the execution of the safety and pollution-protection activities.

#### 4.1.2. Possible Places of Refuge

The ADRIA-GIS computing application is a computer decision making support system that contains potential places of refuge and other related information. The application (as shown in Figure 1.) is used by the authorized persons in the process of making a final decision on the request for a place of refuge. The application provides rapid access and analyses the relevant safety, economic, legislative, environmental, logistical and technical-technological parameters, facilitating the decision making process. The content of the application complies with IMO Resolution A. 949 (23) and EU Directive 2002/59 / EC. The ADRIA-GIS application has been in use since April 1, 2007.



Figure 1.  
ADRIA-GIS decision support system.

Information on potential places of refuge is provided in the GIS application. In addition, all suitable places in the immediate vicinity that could, under special circumstances, provide higher level of ship safety or environmental protection could also serve as places of refuge. ADRIA-GIS decision support is based on multi-criteria analysis (MCA) (Mladineo et al., 2017; Bradarić et al., 2008; Gržetić et al., 2008) which, among other criteria, includes potential places of refuges. However, judging from the available data, no marina in the Republic of Croatia was identified as a potential place of refuge in the GIS application. Still, given that other suitable places in the vicinity of the previously determined venues could also be designated as places of refuge, marinas could indisputably serve that purpose as well. This is especially the case when the safety of nautical tourism is at risk.

A ship can be accommodated at a place of refuge by having her anchored in a protected coastal area, or along the developed coastline, or stranded on the beach. When it comes to larger vessels (cargo and passenger ships), the ship is berthed alongside the built-up shore usually by means of a tug. After the ship has been accommodated in the place of refuge, the ship's crew members are not permitted to move about freely on land, except to carry out activities necessary to ensure the ship's safety, i.e. pollution prevention or cleaning up activities. A list of places of refuge, i.e. developed ports and beaches where a ship can be intentionally stranded is updated by the National Centre manager. The GIS application is usually updated once a month by the person in charge at the Croatian Hydrographic Institute.

The places of refuge are chosen as follows - the starting point in the selection of a place of refuge is the identification of a venue indicated in the list of potential places of refuge which is the closest to the location of the ship in distress. If the starting point of a place of refuge is unsuitable or inadequate in any respect, then the next place from the list is chosen as the potential place of refuge. Exceptionally, a place inadequate on the basis of general environmental protection principles can be taken into account if it significantly reduces the threat or possible environmental pollution and can effectively limit environmental damage. (The Croatian Ordinance on Places of Refuge - The Plan for Accommodation of Ships in Need of Assistance, 2008) The decision making process is repeated until the location which allows greater support to the ship is identified. After the implementation of the basic procedure, a multi-criteria analysis of available refuge locations can be performed. If it is certain that a threat to safety of humans and the ship cannot be avoided by implementing the procedure of rendering assistance provided for in Chapter 7 of the Plan, then the rescue of people begins, and a place of refuge is chosen solely from the standpoint of environmental protection.

Whether a location of a place of refuge is deemed suitable or not is determined by the Plan. The place of refuge is considered suitable with regard to the ship's safety if it (The Croatian

#### Ordinance on Places of Refuge - The Plan for Accommodation of Ships in Need of Assistance, 2008):

- provides satisfactory protection against external forces, especially wind and waves, to preserve the vessel's buoyancy, stability and / or strength;
- enables disembarkation of people from the ship;
- enables the performance of operations required for the removal of threats or the reduction of the risk of maritime or other incidents;
- allows getting people and equipment on board to eliminate threats or reduce danger;
- a ship can be intentionally stranded to prevent uncontrolled sinking.

A place of refuge should be considered suitable if it: allows the reduction of unauthorized discharge of the substance from the ship into the sea, primarily through reduced exposure to wind, waves and currents; provides adequate protection against the spread of pollution (single or multiple fence of protective barriers); and allows the ship to be deliberately stranded to prevent pollution from spreading (somewhere else in case of sinking).

A designated land or sea area is deemed unsuitable for the accommodation of a ship if (The Croatian Ordinance on Places of Refuge - The Plan for Accommodation of Ships in Need of Assistance, 2008):

- it is not sheltered against the prevailing winds and waves;
- it does not ensure satisfactory ship safety (e.g. force of 8 Beaufort in the event of deterioration of weather conditions);
- there is dense traffic of other vessels and watercraft in the immediate vicinity;
- it would be much more difficult to abandon the ship in case of emergency;
- the access of people and land resources to the ship becomes inadequate or lengthy due to a slight increase in wind and waves.

The place of refuge should be deemed unsuitable if: it is located close to national parks, nature parks and other natural resources; there are a number of settlements in the vicinity; there are farms and similar facilities nearby the successful operation of which, in the long term, heavily depends on the quality of the sea; it is not possible to effectively enclose the ship or to close off a smaller area by protective barriers; the sinking of the ship would hinder regular maritime traffic. Unsuitable places of refuge are all areas in the vicinity of tourist and similar facilities where merchant ship visits are uncommon. In view of the size and potential danger represented by vessels in nautical tourism, some of the above-mentioned limitations do not apply in their case.

Namely, marinas that are the starting point of sailing vessels of nautical tourism are tourist destinations and are often located near populated areas. On the other hand, vessels in

nautical tourism pose a lower risk to the marine environment than traditional cargo and passenger ships, but more often lead to greater risks to human lives. Therefore, when considering marinas as places of refuge for nautical tourism vessels, these facts should also be taken into account.

Industrial ports, especially those away from settlements, should be considered suitable places of refuge if assistance can be rendered without increased risk to people on the coast. Economic activity in such ports is not considered a hindrance to rendering assistance to a ship, especially if it reduces threat to the environment. If several places of refuge have largely similar characteristics and/or are almost equidistant from the position of the vessel in need of assistance, the advantage should be given to: a place that provides greater protection from external influences (if they pose a primary threat); a place that can be reached faster and with fewer navigational restrictions, and a place where people and equipment have easier access from land. If the ship is in imminent danger from sinking, capsizing or breaking, the priority in the selection of a place of refuge should be given to: a place that allows better confinement or clean-up of sea pollution, a place more suitable for intentional stranding, and a place in the vicinity of which there are no protected areas, farms, tourist destinations or larger settlements. ([The Croatian Ordinance on Places of Refuge - The Plan for Accommodation of Ships in Need of Assistance, 2008](#)) If neither place stands out even after the aforementioned principles are applied, all the places that were considered should be suggested as a place of refuge. The total number of places of refuge should be limited to a maximum of three.

#### 4.1.3. Approval for Entering a Sheltered Area

Entering the port of refuge is proposed as an aid measure in case of: repair of machinery, hull or other equipment which cannot be adequately performed during navigation on account of weather conditions; cargo shifting; a ship's taking shelter in an area that would not be endangered by the direct action of wind and waves or navigation through such area. Entering the sheltered area includes navigation, floating and/or anchoring in the territorial sea and inland waters.

The repair of machinery, hull or other equipment is normally carried out within the boundaries of the territorial sea on board a floating or anchored vessel, as required by the ship's master. When a vessel is required to float for longer than 4 hours or during the night, if possible, the vessel should be anchored.

In case approval for anchoring or floating in the territorial sea or in inland waters is obtained, the anchorage or floating location are determined by the harbour master, who informs the National Center's official accordingly. Shelter in a port of refuge may be allowed to vessels of up to 80 m in length, vessels not carrying dangerous or toxic cargo and vessels with less than

150 tonnes of fuel. Vessels in nautical tourism without doubt, fit into this category. Shelter is only exceptionally allowed to vessels longer than 80 m, vessels not carrying dangerous or toxic cargo and vessels with less than 150 tonnes of fuel. Providing shelter to vessels longer than 200 m is not allowed. ([The Croatian Ordinance on Places of Refuge - the Plan for Accommodation of Ships in Need of Assistance, 2008](#))

## 5. CONCLUSIONS

The accidents of the Erika and Prestige tankers urged the IMO and the EU to drastically reform the existing maritime safety procedures to improve prevention, especially with respect to tankers as potential causes of major marine ecological disasters. The accidents of these two tankers have opened up numerous issues, and the EU reacted by adopting special measures which member states were required to implement into their national legislation. The Republic of Croatia complied with the IMO Guidelines and Directives of the EU in 2007 by adopting the Ordinance on Places of Refuge and defining the procedure for the selection and approval of places of rescue for ships in need of assistance, competent bodies and responsible persons for the selection and approval of places of refuge, conditions to be met, as well as the terms and conditions of their use.

Information on possible places of refuge is listed in the GIS application. In addition to these places of refuge, all other suitable places in their immediate vicinity are also considered if they could provide a higher level of safety to the ship or facilitate environmental protection as places of refuge. A ship can be accommodated at a place of refuge by anchoring in the protected coastal area, along the coastline or by getting intentionally stranded on a beach.

Marinas, in the function of nautical tourism ports, can be seen as ports of refuge for nautical tourism vessels. If a nautical tourism vessel finds itself in distress, the nearest, or according to the Plan for Accommodation of Ships in Need of Assistance, the most suitable marina is obliged to provide a place of refuge to such a vessel. A problem may arise if the marina's capacities are filled, which happens often during the tourist season. The problem is particularly acute during frequent summer storms when a large number of nautical vessels are looking for a safe berth. If, in such a situation, human life on the vessel, or the safety of navigation in general are endangered, the marina is obligated to give the vessel mooring priority.

The second question is whether marinas are suitable places of refuge for vessels which have suffered excessive damage, or pose a threat to the marine environment due to their cargo or propulsion fuel. Theoretically, marinas could become places of refuge if they are chosen by the competent services as the closest and most convenient places to accommodate a vessel in distress. In such a case, the body managing the port, i.e. the marina

concessionaire is obliged to accept the ship into the marina and provide necessary assistance. In practice, such outcomes are highly unlikely.

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