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Multifunctional Analysis of the State Administration Bodies of the Republic of Croatia in the Implementation of Control and Protection of the Rights and Interests in the East Coast of the Adriatic Sea

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ABSTRACT: The paper has conducted a structural analysis of the relevant state administration bodies of the Republic of Croatia regarding the operational efficiency of implementing the protection of rights and interests in the marine and underwater areas of the semi-enclosed Adriatic Sea, where the respective coastal state (the Republic of Croatia) exercises jurisdiction in accordance with international law. A comprehensive overview of all components of the system, as well as some sensors of the state administration bodies of the Republic of Croatia involved in the implementation of control, monitoring, and protection of rights and interests in the Adriatic Sea – the eastern part, has been synthesized. An analysis of maritime traffic security was conducted. Data on ship, cargo, and passenger traffic in the seaports of the respective coastal state were collected. The analysis covered a four-year period between 2019 and 2022.

1 INTRODUCTION

Maritime security, as an integral part of national maritime policy, is achieved through the effective implementation of surveillance and protection of the sea, including maritime and underwater areas (the seabed, water column, sea surface, and sub-sea area) as well as the airspace above the sea surface. Maritime security represents a fundamental prerequisite for achieving a higher level of national security for coastal states to reduce security threats and risks at sea [24], [26]. Maritime security is analyzed from two perspectives: general maritime safety and the security protection of maritime navigation.

The research problem involves the relevant factors that influence the effectiveness of the implementation of control and protection of the rights and interests of a coastal state in a semi-enclosed sea.

The subject of the research includes the determinants and characteristics of state administration bodies (hereinafter: SAB) responsible for the implementation of surveillance and the protection of rights and interests where the Republic of Croatia (hereinafter: RC) exercises sovereignty, sovereign rights, and jurisdiction in accordance with international law. The paper investigates and analyzes the structures of the relevant SABs of the RC in terms of operational efficiency in implementing the protection of rights and interests in maritime areas.

The research problem and subject refer to the objects of the research in the geographical area of interest, which is the semi-enclosed Adriatic Sea - eastern part. During the four-year period from January 1, 2019, to January 1, 2023, relevant cases of unlawful crossings of the state border at sea (hereinafter: SBaS) were synthesized. A detailed analysis of maritime traffic security and safety was conducted. Data were collected on ship, cargo, and passenger traffic in seaports. The control and protection system is organized depending on the sea

surface area, economic strength, geostrategic position, geographical characteristics, geopolitical circumstances, and existing systems and subsystems that serve to protect sovereignty and enforce the legal regulations of the coastal state.

The purpose of the research is to analyze the functional correlation between the organizational and operational structure of a part of the coastal state administration system involved in the control and protection of the rights and interests of the RC in the Adriatic Sea - eastern part.

In the context of the mentioned purpose, the aim of the research is to show how the SABs, through its competences, conduct the control and protection of the rights and interests of the RC in the Adriatic Sea, and to analyze the structure and functions of the SABs responsible for the implementation of the control and protection of rights and interests in the mentioned area where the RC exercises jurisdiction in accordance with international law.

In the elaboration and interpretation of the research results, the inductive and deductive method, the classification method, the descriptive method, and the compilation method will be used to incorporate existing knowledge.

2 STATE ADMINISTRATION BODIES

The maritime area of the Adriatic Sea, where the Republic of Croatia exercises jurisdiction in accordance with international law and national legislation, is divided into the following areas [9]:

- The area of the internal waters of the Republic of Croatia (hereinafter: IW): 12,498 km²,
- The area of the territorial sea of the Republic of Croatia (hereinafter: TS): 18,981 km², and
- The area of the exclusive economic zone of the Republic of Croatia (hereinafter: EEZ): 23,870 km².

The total area of the IW and TS of the RC amounts to: 31,479 km². The total area of the IW, TS, and EEZ of the RC amounts to: 55,349 km². The volume of the Adriatic Sea is 34,836 km³. The external border of the TS also represents the maritime border of the RC. Figure 1 shows the areas of sovereignty, sovereign rights, and jurisdiction of the RC in the Adriatic Sea.

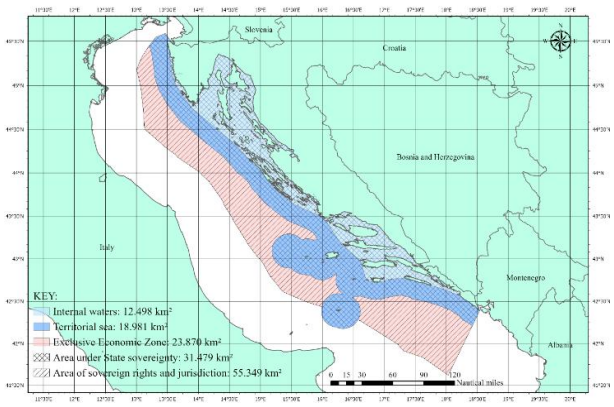

Figure 1. Marine and underwater areas of the Republic of Croatia in the Adriatic Sea. Source: Created by the author based on available data from [20].

The control of navigation in coastal waters conducted by the state involves a set of activities aimed at enhancing the security of navigation and protecting national interests. An appropriate level of navigation safety is primarily reflected in providing assistance to ships in distress and especially in the efficient organization of maritime traffic [13]. Maritime situational awareness is a fundamental prerequisite for the effective and safe conduct of all activities at sea (maritime traffic control or traditional maritime warfare). Due to the diversity of tasks, cooperation among all SABs responsible for protecting national rights and interests at sea, as well as the interconnection of their sensor capacities, is essential. The tracking and control of all activities in the entire maritime area where the Republic of Croatia exercises sovereign rights and jurisdiction (IW, TS, and EEZ) are significant components in achieving all legitimate rights and interests of the RC at sea. The SABs whose missions and tasks are related to the sea have developed their own operational capabilities in implementing control and protecting the rights and interests of the Republic of Croatia at sea. The SABs are ministries and state administrative organizations that control and monitor the interests of the Republic of Croatia at sea [25]:

- Ministry of the Sea, Transport, and Infrastructure (hereinafter: MSTI),
- Ministry of Agriculture - Directorate of Fisheries (hereinafter: MA-DoF),
- Ministry of the Interior (hereinafter: MoI), and
- Ministry of Defense of the Republic of Croatia (hereinafter: MoD).

In accordance with the provisions of the Maritime Code, Articles 75a and 75c, maritime traffic control and management are conducted in the IW, TS, and EEZ of the Republic of Croatia in order to increase the safety of maritime navigation, the efficiency of maritime traffic, and the protection of the marine environment. In this regard, maritime objects navigating or located within the area of control and management are required to provide data to the vessel traffic service and comply with the orders of the vessel traffic service [10], [12]. The most important component in tracking and controlling activities at sea is the integration among participants from the SABs involved in or affecting the maintenance of maritime traffic, all with the aim of receiving and exchanging data on maritime objects navigating the Adriatic Sea - eastern part. The entities actively involved in the control and management of maritime traffic in the Adriatic Sea are as follows: Vessel Traffic Services, Harbour Master's Offices (hereinafter: HMO) and Harbour Branch Offices, Harbour Control Centres, maritime rescue coordination centres (hereinafter: MRCC), Adriatic Marine Meteorological Centre, Plovput, Croatian Register of Shipping, Croatian Hydrographic Institute (hereinafter: CHI), Coastal Liner Service Agency, Maritime Police, Coast Guard of the Republic of Croatia (hereinafter: CGRC), pilots, tugboats, and the vessel traffic services of other Adriatic Sea countries [12]. Indicators of human resources and operational forces of the SABs of the RC in the period from January 1, 2019, to January 1, 2023, are presented in Table 1 [14].

Table 1. Human Resources and Material Assets of the SABs of the RC

State administration bodies	Number of employees 2022	Vessels Large boars	Small boats	Aeroplanes helicopters	Unmanned aerial vehicles
MoD	223	6	6	6	0
MSTI	100	4	34	0	0
MoI	280	7	49	2	0
MA-DoF	42	0	8	0	6
Ministry of Finance – Customs Administration	24	0	4	0	0
Ministry of Culture and Media	6	-	-	-	0
State Inspectorate	35	-	-	-	0
Croatian Firefighting Association	140	0	17	0	6
Civil Protection Directorate	132	-	-	-	0
TOTAL	982	17	118	8	12

Source: Created by the author based on available data from [14].

Table 1 shows a comparative overview of the SABS that control and monitor the interests of the RC at sea. Each individual SAB is equipped with a certain number of personnel, vessels with specific characteristics and categories of seaworthiness, aircraft and unmanned aerial vehicles with the aim of carrying out independent or joint actions in the protection of the rights and interests of the RC at sea. From the annual analysis of the observed period, it can be concluded that human resources and material assets are operationally evenly distributed between the MSTI, MoI and MoD.

Figure 2 shows the geographical distribution of all vessel traffic services in the RC.

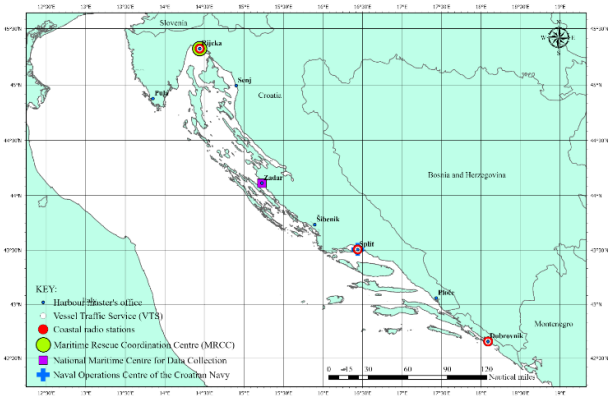

Figure 2. Vessel Traffic Services of the Republic of Croatia. [Source: Created by the author based on available data from [9], [12], [14].

2.1 *Operational Schedule - Functional Limitations of Systems and Sensors of State Administration Bodies*

In order to timely detect and eliminate potential threats, the Vessel Traffic Service enables systematic protection of the rights and interests of the Republic of Croatia (RH) at sea by continuously controlling maritime traffic (traffic density, potential navigational hazards, hydro-meteorological conditions in the controlled area, etc.), distributing collected data in real-time, and implementing national jurisdiction. A real-time integrated picture of maritime traffic is obtained using radar systems, Automatic Identification System (hereinafter: AIS) equipment and devices, hydro-meteorological sensors, the NAVTEX service for direct printing, communication equipment, the information system, and video surveillance devices. Each of these systems can operate independently. Integration into a single entity facilitates easier access to maritime traffic monitoring and management [1], [19]. Radar surveillance provides an almost continuous wide situational picture (so-called plan-panorama monitoring) and simultaneously provides information on multiple targets. The complementary radar visibility, with software image fusion in conjunction with other sensors (AIS, closed-circuit television (hereinafter: CCTV) subsystem, laser rangefinder, etc.), contributes additionally in hydro-meteorologically unfavourable conditions to the monitoring of the maritime situation at sea [21].

For maritime traffic management and control, and for supporting search and rescue at sea, the MSTI uses navigation radars Scanter 2001 and Sperry Marine Vision Master FT, AIS base stations, CCTV surveillance cameras, and the Vessel Traffic Management and Information System (VTMIS). The radar system of the National Centre for Vessel Traffic Service (hereinafter: VTS) consists of a network of radar stations placed in geographic locations that provide the highest quality radar images of the controlled area. The system enables the recognition and calculation of motion identifiers in space (direction, distance and speed) [2]. The operational deployment and coverage areas [detection coverage for radar reflective surface areas larger than five square meters (m^2)] of 10 commercial navigation radars MSTI Scanter 2001 and one Sperry Marine Vision Master FT MSTI are shown in Figure 3.

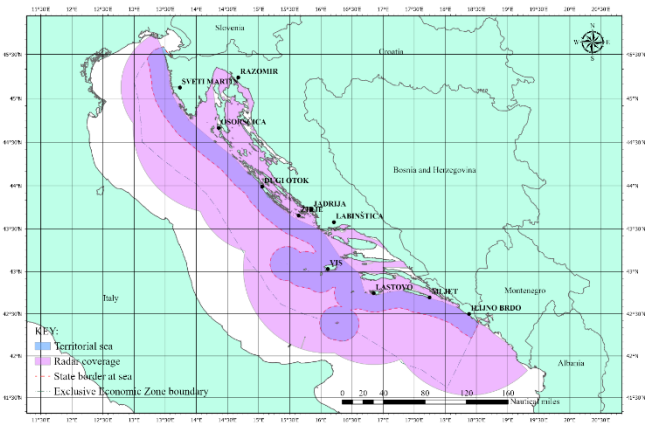

Figure 3. VTS radars – MSTI. [Source: Created by the author based on available data from [14].

The Scanter 2001 radar operates in the X-band and is adapted for installation on the coast and islands. The radar VTS stations are mounted at the following stations: Ilijino Brdo, Lastovo, Mljet, Vis, Žirje, Labinštica, Dugi Otok, Osoršćica, Razromir, and Sveti Martin. At the radar station of the signal station Jadrija, a Sperry Marine Vision Master FT radar device is installed.

The AIS system architecture includes AIS devices such as: receivers, navigational aids, search and rescue transmitters, and base stations. The AIS stations located along the coast and on islands are: Dubrovnik, Mljet, Lastovo, Ploče, Vis, Makarska, Split, Šibenik, Žirje, Zadar, Dugi Otok, Rab, Susak, Crikvenica, Goli, Brijuni, and Savudrija. The operational deployment and coverage areas of the 17 AIS base stations of the MSTI are shown in Figure 4.

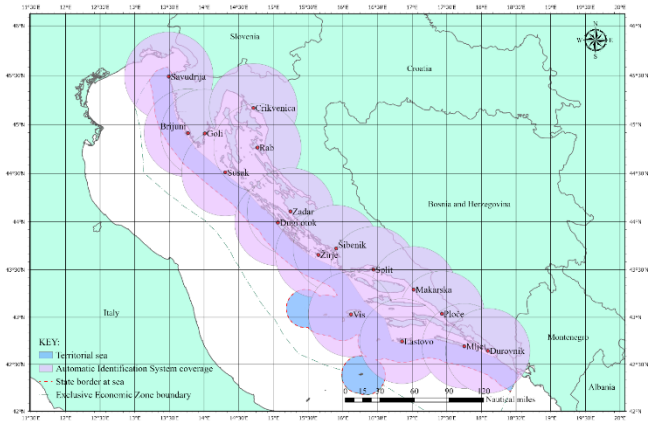

Figure 4. AIS system VTS – MMPI. [Source: Created by the author based on available data from [14].

For management and control of the vessel traffic, the MSTI also uses five long-range CCTV surveillance cameras. The VTMIS system distributes data to local centres in Rijeka, Split and Dubrovnik, to the MoI in the National Maritime Centre for Data Collection (hereinafter: NMCDC) in Zadar, and to the MoD in the Naval Operations Centre of the Croatian Navy (hereinafter: NOC) in Split [12].

For long-distance observation from a ship or from the coast, radar systems and sensors are used, whose limitations are particularly emphasized in a littoral environment. As an active source, radar transmits pulses of high-frequency electromagnetic energy that can be easily identified, and based on the measured data, effectively jammed [11]. The purpose of radar and radar system jamming is to provide false or deceptive signals to vessels of the SABs and the vessel traffic service systems. Jamming leads to the creation of a false maritime situational picture and makes it difficult to detect actual target signals [8]. It should be emphasized that jamming and damage are more likely to occur to the data tracking objects than to the raw radar signal (ARPA and AIS). The limitations of the AIS system include potential for incorrect information (which is evident through the possibility of receiving incorrect AIS data from the ship—one of the major limitations of the AIS system), the possibility of manipulating AIS data, and the challenges of interpreting the data (assessing and interpreting the data to make it truly useful) [3]. To verify the authenticity and validity of the data, it is necessary to continually inform and train naval deck officers and surveillance system operators at the nine coastal monitoring stations of the Croatian Navy (hereinafter: CMS).

In accordance with the State Border Control Act (hereinafter: SBCA), the monitoring of the state border is under the jurisdiction of the MoI, and border control duties are carried out by the border police state. The monitoring and control of the SBaS and the entire maritime space at the national level is conducted in the NMCDC and the National Coordination Centre in Zagreb. In the NMCDC, real-time surveillance of maritime border crossings is enabled with the display of all data obtained from remote sensors, strategically deployed in locations Klek, Zaton Doli and Brijest. Here, we refer to a radar system with integrated thermal imaging and day/night (hereinafter: PTZ) radar-guided cameras with target tracking capabilities.

The NOC includes personnel from the Croatian Navy and the Croatian Air Force with the intention of consolidating all collected and processed data and taking timely and effective measures. The maritime situational picture is monitored using various, independent and mutually unconnected systems. By transmitting and distributing the maritime picture to partners of the North Atlantic Treaty Organization (hereinafter: NATO), the basic prerequisite for security protection in the Mediterranean force domain is created. The NOC, based on input data, creates an overview of activities for the next 96 hours, which is considered optimal time to command forces on the ground, and to form task forces within this time.

2.2 *Violations of Border Crossings*

From the annual analysis [18], it can be concluded that the Dubrovnik-Neretva County Police Administration recorded the highest number of violations regarding the protection of the SBaS). In the observed period, it is evident that the primary operationally recorded offense was a violation of Article 5 of the Schengen Borders Code.

Since January 2023, with the unanimous support of all EU member states, the Republic of Croatia has become the 27th member of the Schengen Area and fully applies the Schengen acquis. Border controls at land and maritime border crossings have been abolished, and since March 2023, they have also been abolished at Croatian airports for flights to and from Schengen member states. According to the Regulation Amending the Regulation on Croatian Border Crossings, all seasonal border crossings for international passenger traffic in maritime transport have been abolished since January 2023. Permanent border crossings for international passenger and cargo traffic with inspection services, as well as permanent border crossings for international passengers and cargo traffic in maritime transport, have remained the same [22]. The new permanent border crossings for international passenger traffic in maritime transport since 2023 are the folowing:

- "Umag" (Umag Police Station),
- "Pula" (Pula Maritime and Airport Police Station),
- "Mali Lošinj" (Mali Lošinj Police Station),

– "Vis" (Vis Police Station),
– "Ubli" (Lastovo Police Station) and
– "Cavtat" (Gruda Police Station).

The record and analysis of SBaS protection violations by jurisdiction of PAs are carried out at the NMCDC in Zadar.

2.3 *Analysis of Recorded Violations of State Maritime Border Protection by Police Administrations*

Violations are determined by monitoring vessel movements using technical systems and by the actions of SABs with official vessels along the SBaS and inland through compensatory measures, as well as by the actions of police officers at border crossings during border control. The total number of recorded violations in the implementation of SBaS control and protection, divided by the jurisdiction of the PAs from January 1, 2019, to January 1, 2023, is shown in Figure 5.

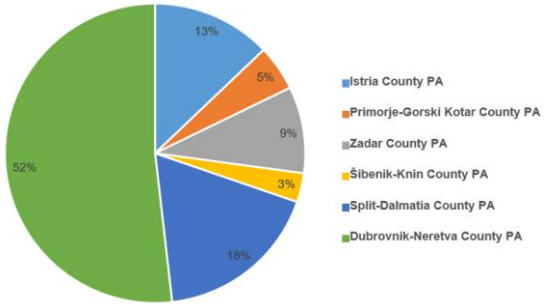

Figure 5. Violations of the protection of the state border at sea according to the competences of the PU. Source: Created by the author based on available data from [18].

During the observed period, the most operationally vulnerable maritime territory of Croatia is the area under the jurisdiction of the Dubrovnik-Neretva County PA, where the highest number of violations in the domain of SBaS control and protection (51%) was recorded. This is followed by the Split-Dalmatia County PA (17%) and the Istria County PA (14%). In the maritime area of Croatia, there have been no cases of illegal border crossings aimed at permanent settlement in the EU (illegal migration). In the event of migrants arriving by sea, the most vulnerable area would be the southern Adriatic, specifically the area of the Dubrovnik-Neretva County PA. However, there is currently no information suggesting the activation of a migrant route through the southern Adriatic [18]. A spatial representation of recorded violations in the implementation of SBaS control and protection by police administration jurisdiction from January 1, 2019, to January 1, 2023, is shown in Figure 6.

The joint cooperation of all SABs responsible for tasks of control, detection, identification, and sanctioning of violators in order to protect the SBaS concretely supports the thesis of the study on the need to find an optimal geographical position on the eastern coast of the Adriatic Sea in Croatia for repositioning the resources of the Croatian Armed Forces to strengthen the effectiveness of protecting Croatian interests in the eastern part of the Adriatic Sea.

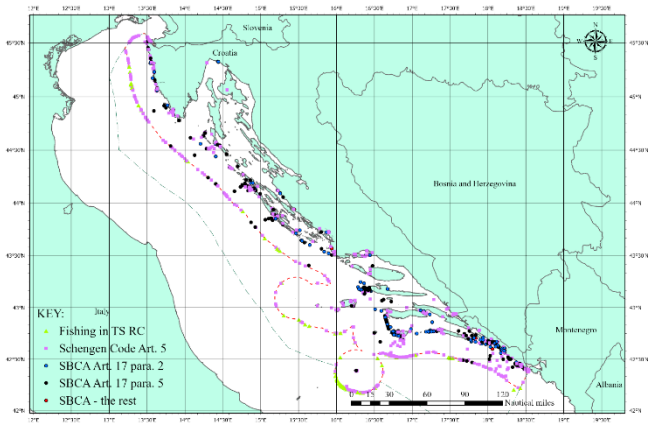

Figure 6. Locations of DGM protection violations (year 2019 - 2022). Source: Created by the author based on available data from [18].

2.4 *Comparative Analysis of Maritime Traffic Safety According to the National Maritime Rescue Coordination Centre*

Due to the large number of islands, islets, and reefs, variable meteorological conditions, and high density of maritime traffic, the Adriatic Sea is considered dangerous for navigation in terms of safety. Every year, based on the records of the National Maritime Rescue Coordination Centre, the Navigation Safety Directorate of the MSTI onducts an analysis of recorded maritime accidents and incidents in the Adriatic Sea (Ordinance on the Internal Organization of the Ministry of the Sea, Transport and Infrastructure (NN 97/20)). In order to improve the quality of the work of the National Maritime Rescue Coordination Centre, statistical data tables have been systematically updated and adapted to new situations in maritime traffic within the jurisdiction of the MRCC [7]. Despite the safety measures implemented by the MSTI, the MoI, and the MoD a total of 2,251 search and rescue interventions (hereinafter: SAR) were carried out in the Adriatic Sea from January 1, 2019, to January 1, 2023.

Table 2 shows a comparative overview of all maritime operations performed by territorial area between 2019 and 2022 within the responsibility area of the MRCC Rijeka is shown.

Table 2. Overview of maritime operations by the territorial division of the Croatian sea

AREA	2019	2020	2021	2022
IW and TS of the Republic of Croatia Exclusive Economic Zone (former EFPZ) of the Republic of Croatia and outside of the area of jurisdiction of the Republic of Croatia	601 11	475 5	607 3	546 3
TOTAL	612	480	610	549

Source: Created by the author based on available data from [14], [15], [16], [17].

By analyzing the data shown in Table 2, it can be concluded that each year the majority of maritime interventions by the Croatian SABsS occur within the IW and TS of the RC (more than 99%, with less than one percent in the contiguous zone and outside the

jurisdiction of the RC). In Figure 7, the annual distribution of maritime operations in the IW, TS, EEZ, and outside the jurisdiction of the RC within the MRCC Rijeka jurisdiction from January 1, 2019, to January 1, 2023, is visible.

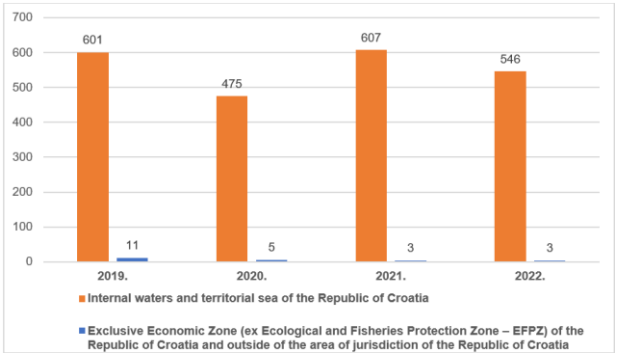

Figure 7. Annual maritime operations towards the territorial area of the Republic of Croatia at sea. Source: Created by the author based on available data from [14], [15], [16], [17].

Table 3 shows a comparative overview of all SAR maritime operations performed by the jurisdiction of Croatian HMOs between 2019 and 2022.

The comparative overview of all SAR maritime actions by the jurisdiction of harbour master's offices from January 1, 2022, to January 1, 2023, is visible in Figure 8.

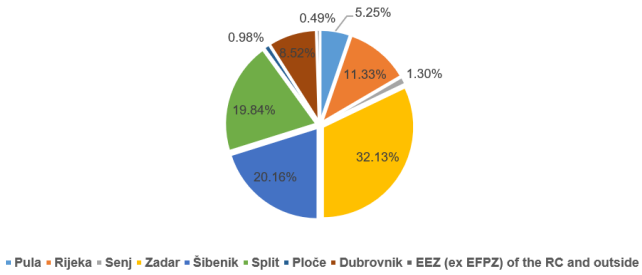

Figure 8. Implementation of maritime SAR operations according to the competences of the Republic of Croatia (2022). Source: Created by the author based on available data from [14], [15], [16], [17].

By analyzing the data shown in Table 3, it can be concluded that all the HMOs participated in SAR operations at sea. The largest number of SAR operations at sea were carried out in the jurisdiction of the Zadar Harbour Master's Office. In Table 4, a comparative overview of the engagement of all maritime traffic participants' vessels in SAR operations from 2019 to 2022 is shown [SAB (MSTI (vessel units of the harbour master's offices, MoI (vessel units of the maritime police), MoD (vessel units of the CGRC), commercial rescuers, Croatian Mountain Rescue Service, and all the other maritime traffic participants] in the execution of rescue operations at sea from 2019 to 2022.

In the detailed data analysis of the engagement of vessels, it can be noted that the highest share of engagement in SAR operations at sea was carried out by the rescue vessels of the HMOs. The annual overview of recorded vessel engagements is visible in Figure 9.

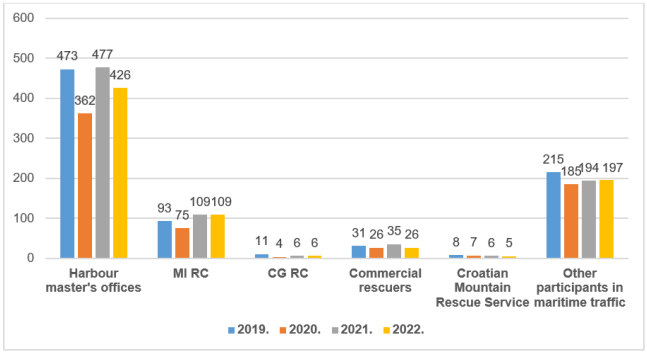

Figure 9. Engagement of rescue vessels in 2019 – 2022. Source: Created by the author based on available data from [14], [15], [16], [17].

Table 3. Comparative overview of all SAR maritime operations by the jurisdiction of Croatian harbour mater's offices from 2019 to 2022

HARBOUR MASTER'S OFFICE	2019	2019 %	2020	2020 %	2021	2021 %	2022	2022 %
Pula	49	7.96	32	6.70	32	5.25	21	3.83
Rijeka	91	14.80	67	14.05	69	11.33	55	10.02
Senj	19	3.09	9	1.89	8	1.30	23	4.19
Zadar	214	34.96	164	34.17	196	32.13	234	42.96
Šibenik	109	18.05	112	23.27	123	20.16	90	16.39
Split	60	9.76	36	7.34	121	19.84	65	11.84
Ploče	5	0.81	3	0.63	6	0.98	3	0.55
Dubrovnik	54	8.78	52	10.90	52	8.52	55	10.02
EEZ (former EFPZ) of the RC and outside	11	1.79	5	1.05	3	0.49	3	0.55
TOTAL	612	100.00	480	100.00	610	100.00	549	100.00

Source: Created by the author based on available data from [14], [15], [16], [17].

Table 4. Engagement of vessels in SAR operations from 2019 to 2022.

VESSEL UNITS	2019	2019 %	2020	2020 %	2021	2021 %	2022	2022 %
Harbour master's offices	473	56.92	362	54,93	477	57.68	426	53.52
MoI	93	11,19	75	11.38	109	13.18	109	13.96
CGRC	11	1.32	4	0.61	6	0.72	6	0.75
Commercial rescuers	31	3.73	26	3.95	35	4.23	26	3.27
Croatian Mountain Rescue Service	8	0.96	7	1.06	6	0.72	5	0.63
Other particioants in maritime traffic	215	25.88	185	28.07	194	23.47	197	24.75
TOTAL	831	100.00	659	100.00	827	100.00	769	100.00

Source: Created by the author based on available data from [14], [15], [16], [17].

The spatial representation of recorded extraordinary events at sea in the period from January 1, 2019, to January 1, 2023, is shown in Figure 10.

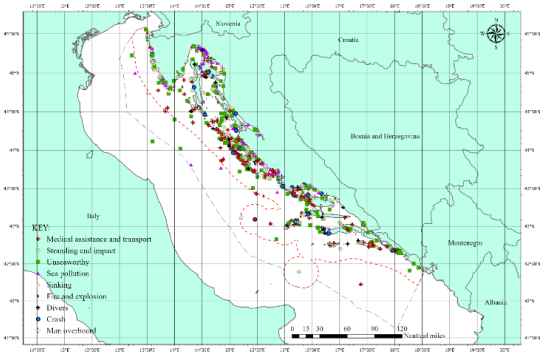

Figure 10. Locations of extraordinary events at sea (2019 - 2022). Source: Created by the author based on available data from [14], [15], [16], [17].

To strengthen the effectiveness of the MSTI, the MoI, and the MoD in protecting Croatia's interests in the eastern part of the Adriatic Sea in terms of general maritime safety and security protection of maritime navigation, systematic updating and adaptation to new security challenges in maritime traffic within the jurisdiction of the National Maritime Rescue Coordination Center is necessary.

2.5 *Conceptual Analysis of Maritime Traffic of Ships, Passengers, and Goods in Seaports*

Dubrovnik, Ploče, Split, Šibenik, Zadar, and Rijeka are ports open to international maritime traffic and are of exceptional importance for the Croatian economy. In Croatian ports in 2019, there were a total of 359,223 port calls by domestic and foreign (commercial, passenger, fishing, and public) vessels (354,708 vessels with a domestic flag and 4,515 vessels with a foreign flag). The total cargo traffic in the ports amounted to 20,580,000 tons (domestic cargo traffic amounted to 1,531,000 tons, and international cargo traffic 19,049,000 tons). Passenger traffic in the ports amounted to 35,576,000 passengers [6]. In 2020, there was a significant drop in the traffic of ships and passengers in Croatian ports caused by the COVID-19 pandemic. Table 5 shows a comparative annual analysis of total maritime traffic of ships, cargo, and passengers in the period from 2019 to 2022 in Croatian port.

Table 5. Total maritime traffic of ships, cargo, and passengers in Croatian seaports from 2019 to 2022

COMPARISION OF ARRIVED SHIPS			
2019	2020	2021	2022
359,223	249,012	310,434	342,752
COMPARISON OF GOODS TRAFFIC IN PORTS			
2019	2020	2021	2022
20,579,588	21,410,167	21,643,517	23,606,642
COMPARISON OF NUMBER OF PASSENGERS IN PORTS			
2019	2020	2021	2022
35,575,936	18,786,582	27,322,367	33,833,931

Source: Created by the author based on available data from [5].

Table 6. Clasification of ships arriving at Croatian seaports from 2019 to 2022

TYPES OF SHIPS	2019	2020	2021	2022
Passenger ships	218.021	131.009	171.499	194.368
General cargo ships	118.332	99.614	118.205	129.259
Ribarski brodovi	17.966	14.578	16.634	14.008
Cruise ships	1.454	167	561	1.294
Tankers	783	907	974	1.048
Tow-boats	653	814	687	819
Dry bulk carriers	515	513	561	760
Container ships	463	500	419	380
Miscellenous types	610	471	531	727
Offshore production ships	365	350	268	6
Specialised ships	57	62	52	48
Dry cargo barges	4	27	43	35
TOTAL by number	359,223	249,012	310,434	342,752
by GT (,000 t)	404,092	309,233	373,433	428,984

Source: Created by the author based on available data from [5].

Table 7. Maritime traffic in the Adriatic Sea - eastern part according to the most significant seaports within the area of jurisdiction of the harbour master's offices of the Republic of Croatia from 2019 to 2022.

Seaports	Arrived Ships (in numbers)	Passenger traffic (in numbers)	Cargo traffic (in tons)
Pula-2019	8,972	981,751	215,375
Pula-2020	7,158	514,971	187,195
Pula-2021	8,808	923,946	174,454
Pula-2022	8,200	1,156,646	180,147
Rijeka-2019	2,221	155,378	3,355,620
Rijeka-2020	1,791	66,385	3,512,407
Rijeka-2021	2,189	87,221	4,015,018
Rijeka-2022	2,354	147,033	4,355,051
Zadar-2019	18,276	2,500,768	418,325
Zadar-2020	15,043	1,609,450	416,750
Zadar-2021	17,508	2,090,765	402,755
Zadar-2022	18,387	2,500,794	554,589
Šibenik-2019	26,353	1,058,491	283,712
Šibenik-2020	23,474	598,521	275,594
Šibenik-2021	25,104	759,600	203,494
Šibenik-2022	26,764	1,001,403	406,426
Split-2019	23,468	5,319,441	1,941,985
Split-2020	13,129	2,523,664	2,040,547
Split-2021	16,260	3,835,596	2,204,666
Split-2022	19,934	4,986,819	2,405,600
Ploče-2019	2,281	384,198	3,506,554
Ploče-2020	2,061	286,865	2,541,001
Ploče-2021	2,189	382,343	3,922,911
Ploče-2022	2,247	239,938	5,415,553
Dubrovnik-2019	36,130	3,141,083	20,857
Dubrovnik-2020	17,256	676,934	12,249
Dubrovnik-2021	25,715	1,297,947	48,499
Dubrovnik-2022	36,344	2,451,419	10,280

Source: Created by the author based on available data from [5].

By analyzing the data presented in Table 5, it can be concluded that the evident decrease in the number of arriving ships and passengers in 2020 compared to 2019 was undoubtedly influenced by the COVID-19 pandemic. Table 6 shows a classification of ships that entered the Croatian seaports in the period from 2019 to 2022. By analyzing the data, it can be concluded that the highest number of arrivals in Croatian seaports was recorded in 2019. When classified by gross tonnage (hereinafter: GT), the highest number of ships entered the Croatian seaports in 2022. When categorized by different types of ships, the most

common type of ship in the Croatian seaports from 2019 to 2022 were passenger ships.

The comparative overview of the total recorded maritime traffic (ships, passengers, and goods) in the Adriatic Sea - eastern part (Figure 11) has been elaborated according to the most significant seaports within the area of jurisdiction of Croatian HMOs from January 1, 2019, to January 1, 2023, in accordance with the data in Table 7.

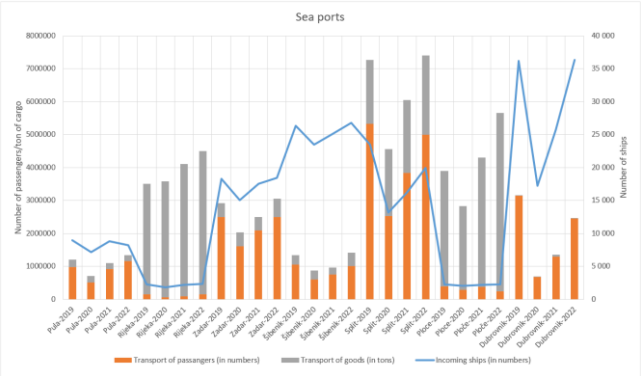

Figure 11. Total maritime traffic of the most important seaports within the area of jurisdiction of the Maritime LK of the Republic of Croatia in 2019 – 2022. Source: Created by the author based on available data from [5].

3 CONCLUSIONS

The paper presents a structural analysis of the strategic, operational, and tactical levels of the characteristics of SABS in the implementation of control and protection of the rights and interests of the Republic of Croatia in the Adriatic Sea - eastern part. Using theoretical assumptions, the study was carried out through the analysis of collected data over a four-year period. The Adriatic Sea was used as an exemplary case of a semi-enclosed sea. All the recorded maritime safety data were systematically classified through the statistics of maritime accidents and incidents in the eastern part of the Adriatic Sea. Ship, cargo, and passenger traffic in the Croatian seaports from January 1, 2019, to January 1, 2023, was elaborated. The study particularly valued the author's multi-year personal experience working within the Croatian Armed Forces (OSt RH). The paper identified and detected factors affecting the ability to achieve a higher level of efficiency in the implementation of the protection of national rights and interests of the Republic of Croatia in the Adriatic Sea - eastern part. The expected contribution of the research lies in determining the significance and role of state administration bodies in performing key tasks in the function of maritime safety in the Republic of Croatia, improving the system of evaluation and efficiency of state administration bodies, and contributing to the development of general knowledge about maritime affairs and traffic, especially regarding the system of maritime security in the maritime areas of sovereignty and sovereign rights of the Republic of Croatia in the Adriatic Sea - eastern part.

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