



POLAND'S STRATEGIC CONCEPT FOR MARITIME SECURITY



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WARSZAWA-GDYNIA 2017

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PREFACE

The contemporary environment of international security is growing increasingly uncertain and complex. The network of global political, military, economic, and social relations is expanding and this directly affects the relations among countries, non-governmental organizations, and individual people. New threats are emerging, which in turn demand adequate counteractions on the part of the state. The location of Poland bordering the Baltic Sea has got a strategic value to our security and socio-economic development with all its consequences.

The creation of a strategic concept document for Poland's maritime security is based on the need for ensuring the state's ability to respond to threats arising as a consequence of the rapidly changing security conditions for Poland. It is necessary to guarantee safe conditions for the growth of the maritime economy and the development of a vision for the evolution and functioning of the Polish maritime force. The unsuccessful use of Poland's coastal location on the Baltic Sea for the last couple of years has resulted in the neglect of maritime forces and the Polish Navy in particular. This in turn has led not only to a radical drop in the Navy's combat capabilities and uncertainty as to its future, but also to unrealized prospects resulting from Poland joining the European and Euro-Atlantic structures. A lack of vision for the purpose and use of maritime forces leads to a selective development planning and thus, to the employment of modernization plans that, only in a limited manner, fit the ever changing state of security.

I would like this concept document to initiate a debate leading to transformation of the national maritime security system. Preparing such a document shall introduce an order and sequence in the development of Polish maritime forces and the use of our coastal location. The recommendations included herein should be appropriately used by all state and private parties responsible for the planning and implementation of operations in the area of the country's maritime security and, in particular, should lead to the creation of a future *Maritime Strategy of Poland*, which would describe all areas connected with our country's maritime security.

**President of the Republic of Poland
Commander-in-Chief of the Armed Forces**

Andrzej Duda

INTRODUCTION

The National Security Bureau started working on *Poland's Strategic Concept for Maritime Security (SCMS)* on the President of the Republic of Poland's initiative. The principal intent of this SCMS is to inspire an extensive debate and direct the actions of state agencies in this area. This document takes into account Polish strategic documents on national security, the *European Union Maritime Security Strategy (2014)*, the *NATO Alliance Maritime Strategy (2011)* and many other documents signed by Poland that are still in force. The experience of the Polish National Security Bureau in the areas of the organization and methodology for the creation of concept documents has been applied.

The SCMS includes elements such as: the assessment of the maritime security environment, including threats, risks, opportunities, and challenges, the evaluation of the country's maritime forces, the definitions of national interests and strategic aims, their realization with respect to maritime security and recommended directions for the transformation of the national security system in this area. It takes into consideration the historical and social-cultural context. It contains assumptions that should stimulate discussion and debate on all aspects of maritime security, making up a coherent system requiring a synergistic and integrated approach.

This document should be used as a starting point and conceptual foundations for further work on the development of Poland's maritime security.

The Concept describes the conditions for the creation of a cooperation system for all state institutions concerned with the development of security in the maritime area. It includes also other non-state entities which are related to them. The Concept also relates to the citizens of our country, in connection to the development of maritime awareness and spreading maritime knowledge.

The creation of this document would not be possible without the kind assistance and help from the representatives of various entities. The Committee would like to particularly thank the management and representatives of the Ministry of Foreign Affairs, the Ministry of Maritime Economy and Inland Navigation, and the Ministry of National Defense. At the same time we would like to appreciate the unique value of the opinions received and pay tribute to the involvement of the management and representatives of the General Command of the Branches of the Armed Forces, including the Navy Inspectorate and the Special Forces Inspectorate as well as the General Staff of the Polish Army, the Maritime Search and Rescue Service, the Crisis Management Centre of the Pomorskie Province and all the other people and institutions that assisted in the creation of this Concept.

**Head of the National Security Bureau
Secretary of State**

Paweł Soloch

CHAPTER 1. THE MARITIME ENVIRONMENT

1.1. HUMAN MARITIME ACTIVITIES

The introduction of oceanic navigation ushered humanity into the modern age and it started one of the most important processes in the history of humankind, which changed the world and shaped the foundations of civilization. This process is visible to this day and it will continue to shape global matters in the future. Not many events in human history have had such a profound impact on the minds of the people and led to such groundbreaking changes in the development of civilizations. With the introduction of transoceanic ships, humanity finally had the tools to reshape the existing world order of political, economic, social, and cultural relations. These tools were constantly modernized and changed, enabling nations to secure their maritime interests even further. This in turn led to the need for universally recognized and used maritime order control procedures and their sanctioning by creating legal standards that would define human activity in this environment. The sea has become a natural space for the creation, development, and reshaping of human relations, in all of their aspects.

Human sea activities are interconnected and codependent and may be divided according to their purpose, which are:

- Political and military (including the control of marine regions),
- Economic, and
- Socio-cultural.

Political and military development

National maritime (oceanic) activity has shaped the political order of the modern world. Its complex development has resulted in the economic growth of many countries, and this in turn has led to their military and political strength. Maritime interests, constantly redefined and broadened, have turned maritime forces into a natural and basic tool for the development of security and international standing through the use of force to achieve strategic maritime goals and shape the evolution of the global security environment.

Nowadays, maritime forces, and navies in particular, being instruments of national power, guard the global political order on seas and oceans, as well as on the adjoining coastal regions. One of their main missions is to keep the peace and uphold international laws – whilst maintaining and developing their full warfighting capabilities, which are decisive with regard to the strength and credibility of deterrence of potential adversaries.



Economic activity

The need for the development of economic and commercial relations in Europe provided a spark to many nations' oceanic activity. That need initiated in the past centuries the greatest migration movement in the history of humankind – the settlement of coastal areas. Nearly 80% of the world's population moved to the vicinity of seas and oceans to constantly develop new economic relations and create new trade routes. These routes now connect nearly all countries and they are effectively the bloodstream of the world economic system. The security of maritime navigation is a necessary condition for its stable development. Nearly 90% of globally traded goods are transported in this way. Economic maritime activity includes other areas, such as sea mining, open-sea fishing, the maritime energy industry, maritime works, recreation and leisure, construction works, development of maritime equipment, and many others. The security of all of these activities is one of the main goals of maritime forces, and the navy in particular.

Social change, common values, and intracultural exchange

Humankind's maritime seafaring activities have shaped the social and cultural development of the world. They have affected the nations by introducing such concepts as freedom, initiative, openness, and unity. These maritime elements influenced the shaping of national systems based on universal democratic values. Their protection is one of the key goals of maritime forces of the free world. Ideas, religions, social behavior patterns, languages as well as collective awareness and the preferred order systems (including legal ones) connected many nations and states that would otherwise be physically separated.

All forms of maritime activities evolve, forcing the development of science and technology. This has not only contributed to the development and sharing of technological advancements but has also been the main factor behind the development of human civilization.

Navigational rights and international waters, guaranteed by the international law of the sea, are a vital global accomplishment that gives equal rights to exchange goods and provides security to maritime activities. All maritime forces that are acting in good faith should uphold these rights and protect them in their present state.

1.2. THREATS, RISKS, CHALLENGES, AND OPPORTUNITIES IN MARITIME SECURITY

Contemporary sea threats and risks

Contemporary security is characterized by dynamic changes resulting from permanent, repetitive, and new types of threats. These threats can be connected with: one nation's need to dominate others expressed more or less directly in their security policies and recorded in their strategic documents; unequal international cultural and economic development; international, ethnic and religious conflicts (in Europe and its vicinity as well); mass migrations from North Africa and the Middle East to Europe; the growing rivalry for access to natural resources; and, the unstable state of the global financial system. The maritime security threats and risks affect, or may affect, the security of Europe as a whole, including the security of the Baltic region and Poland. They include:

- Questioning or selective recognition of international laws: which results in limiting trade routes and development of conflicts for maritime territories (so-called *maritime territorialization*);
- Terrorism, piracy, and other unlawful acts at sea and in harbors: which is aimed against ships, cargo, crews and passengers, harbors and harbor facilities, as well as critical maritime infrastructure;
- Transborder and organized crime: including maritime theft, human trafficking, smuggling, organized crime connected with illegal immigration, gun and drug smuggling, contraband;
- Spread of weapons of mass destruction: including chemical, biological, radiological, and nuclear weapons;
- Weakening the control systems of conventional armed forces and undermining the development of trust in Europe: this in turn creates conditions for the militarization of its coastal regions,
- An increase in military and non-military incidents facilitating threats to sea trade (e.g. episodes of hybrid and asymmetrical warfare, information warfare, and cyber warfare).

Additionally, among the major threats and risks connected with the Baltic region are:

- Militarization of the Baltic region, first of all related to the development of Russia's military power, in particular Anti Access/Area Denial (A₂/AD) capabilities, which leads to an increased role of military instruments in conducting international affairs in the region;

Patrolling the Marmara Sea (SNMG2 2016).
Polish Special Forces soldier on board
ORP Gen. T. Kościuszko
Photo: Grzegorz Sowa



- Russia's monopoly on energy: some countries overly depend on the import of raw materials from the Russian Federation as well as on Russian transport infrastructure;
- Potential local, small-scale conflicts: such as incidents with the use or without the use of weapons; hybrid and asymmetrical wars; connectivity wars which include, among others, geo-economic warfare;
- Baltic Sea water pollution: this threatens the Baltic Sea's ecosystem and the health of the citizens of coastal regions, such as: leaks and spreads of oil-related substances and other dangerous substances; increase in outflow of urban waste, industrial, and agricultural sewage to the rivers, which in turn leads to sea eutrophication; and, weapons and chemical compounds dumped onto the sea bed;
- Unlawful or excessive exploitation of sea resources: this leads to biological deterioration, illegal fishing, degradations to the environment connected with human activity and the spread of species from outside of the Baltic Sea;
- Illegal exploration of wrecks and underwater objects: including the exploration of wrecks that are, in fact, mass graves, which is connected with the theft of archaeological and historical artifacts;
- Non-regulated system of exclusive economic zones and limited access to some straits used for international transport;
- Forcing of coastal and sea investments by countries or groups of countries that hinder the economy of other countries in the region;
- Climate change.

Maritime security challenges

Among the key challenges to Poland's maritime security are:

- An active and permanent cooperation in upholding the legal order according to the law of the sea, which regulates, for example, the freedom of movement and flight, natural resources acquisition, and other forms of economic and scientific-research activities;
- The rebuilding of the potential of the Polish Maritime Forces (PMF), which would ensure an acceptable level of maritime security through an increased involvement in NATO and EU activities that protect the interests of the member states in connection to access to global marine areas, key region stability, and border protection;
- Logistics infrastructure development, which would enhance our Host Nation Support capabilities and forward military NATO presence in the Baltic Sea region, as well as the developing cooperation between NATO and the EU;
- A role in rebuilding NATO naval capabilities (NATO Maritime Force Posture), including their integration with land and air components, inclusion of this matter in the long-term Alliance policy and active participation and development of the *Maritime Situational Awareness/Maritime Domain Awareness MSA/MDA* systems;
- Acquisition and maintenance of local (littoral) sea control, including the development of allied and national capabilities for overcoming A2/AD capabilities of potential adversaries (A2/AD systems), which aim to hinder allied forces from providing reinforcements in the region of the Baltic Sea;
- Creating conditions for diversification of energy supply sources to be delivered by sea;
- Neutralization of uncontrolled, mass migration through marine regions;
- Stopping sea environment degradation, many of the changes to the natural environment in the Baltic region stem from environmental degradation and climate change;
- Maintaining Baltic Sea security and focusing on the management of sea traffic, sea and ecological rescue as a result of an increasing traffic on the Baltic sea routes and their key importance to raw material inflow to Poland;
- Supporting operations that ensure the stability of the Arctic region – climate change in the region is increasing the activity of Arctic countries related to the process of establishing the continental shelf borderlines (prospective access to natural resources) and acquiring rights to use the new navigation areas, and may become a major military and security concern for the Baltic Sea region.

Maritime security opportunities

The coastal location of a country creates unique opportunities for the realization of strategic goals such as maintaining independence and territorial integrity, economic, social, and cultural growth as well as the protection of the lives of citizens and creating a positive image of the country. At the same time, a sea may become an unlimited field for international rivalry. In the case of Poland, this means the creation of conditions for developing maritime interests, especially inside allied and coalition structures.

This is why all maritime security enhancing activities need permanent coordination with the process of maritime interest accomplishment and balancing the budget expenditures, which are necessary for maintaining and use of PMF. This includes the adaptation of the Navy (doctrine, practice, force, resources) to the actual challenges and threats connected with Polish maritime security. The synchronization of activities in the presented fields in the globalized and demanding maritime area may yield considerable results in a relatively short time. The key condition to achieve this, however, is the reconstruction of key political and military use of the Polish Navy (PN) in regard to NATO and the EU; change of the model that stems from the times of the Warsaw Pact (Navy readying itself for traditional warfare) to an active Navy model included in allied structures (involvement in operations that sustain the global maritime order, maintain European maritime security with the aim of the development of Poland's position and credibility as an ally in NATO and the EU).

Accomplishing this key goal will enable Poland to fully use opportunities connected with our maritime security. These include:

- making the Baltic Sea a platform for the extension of the Euro-Atlantic safe zone through the development of new formal and non-formal functional regional cooperation forums, including the advancement of Euro-Atlantic integration in the Baltic region and improvement of relations with Nordic countries in security areas, as well as strengthening of the Polish Navy and its regular participation in allied operations and training;
- using the maritime forces to create safe conditions for the development of the maritime industry, which would broaden the scope of our maritime interests and enable the development of military and non-military technology;
- broadening the scope of scientific, cultural, and tourism exchange;
- using opportunities provided by the international law of the sea and conditions for the pursuit of national maritime interests of cooperation with other countries, in particular with the countries having access to marine regions of similar or identical status.

1.3. POLISH MARITIME FORCES ACTIVITY

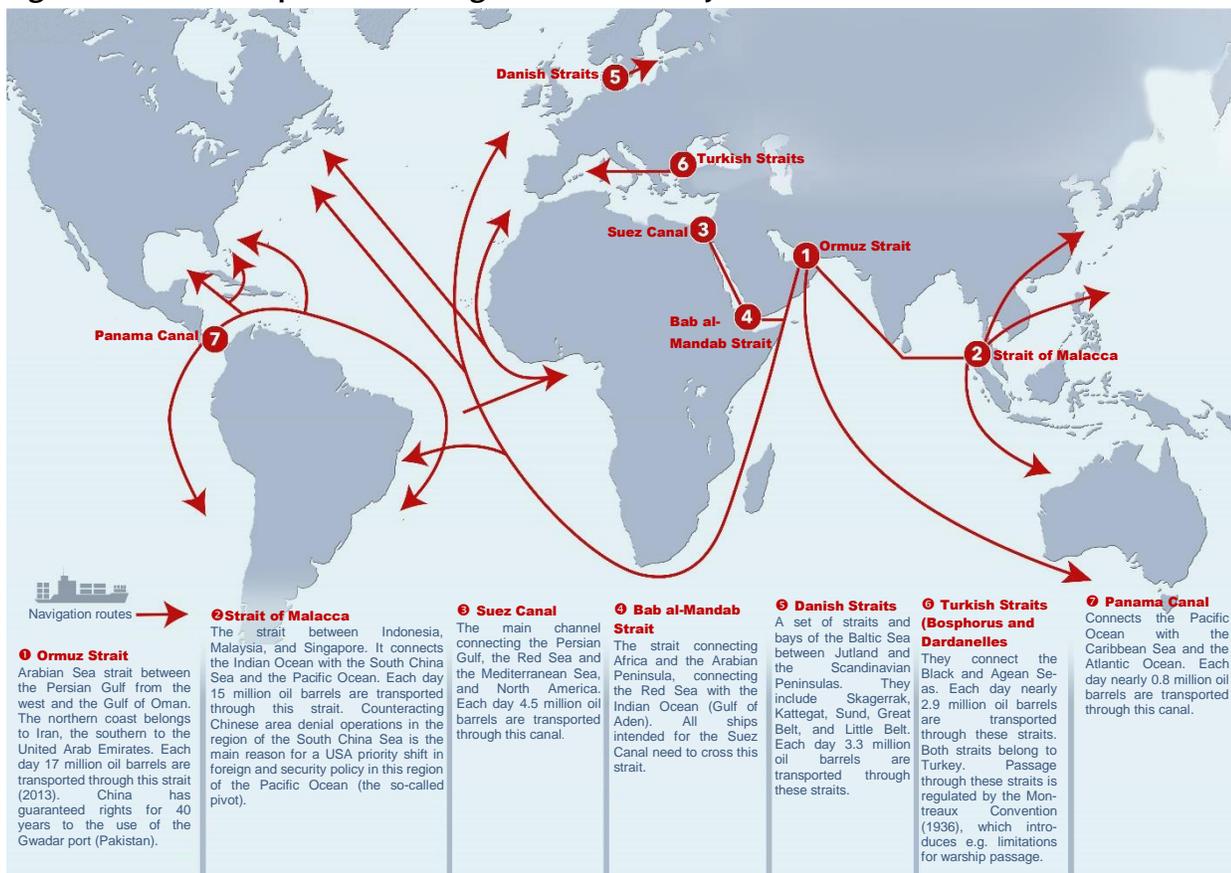
Polish interests are connected to all sea basins of the world. As in the case of most countries, they are protected by national, allied, or coalition structures. Polish maritime forces are a part of the regional (Baltic), European, and global maritime security system.

Areas vital to Polish interests

Areas of vital importance for Poland – sea and oceanic areas with coastal regions, where the maintenance of peace, legal order and high environmental protection laws is vital to the interests of a country, because of their importance to the military, trade routes or maritime infrastructure security or because of their natural resources.

Some regions are of vital importance because of their role in the interests of a nation. These areas are located all over the world. To a large extent, they are the same for all maritime nations and they are under their special control. Ensuring the security of the main trade routes needs a special focus on the network's nodes – straits and channels, called the *chokepoints* (Figure 1).

Figure 1. Global chokepoints of strategic value to security and trade



Source: own elaboration on the basis of: *Critical Maritime Trade Chokepoints*. U.S. Energy Information Administration.

These are basins of key importance to global trade. Some of them may be easily blocked by countries or non-state organizations. Other regions critical to sea routes are characterized by permanent or temporary threats to the security and legal order because of armed conflict, international feuds, sea terrorism, piracy, and other forms of criminal activity. All of the areas are controlled by international community, acting on the basis of a United Nations mandate, on the side of NATO, the EU, or other regional international coalitions.

In the case of national affairs, the nearest areas of vital importance to Poland are:

- the Baltic Sea and the Danish Straits
- the North Sea, the Norwegian Sea, the Mediterranean Sea with all adjoining Atlantic areas
- the Black Sea
- and the waters of the Arctic

In these areas, Polish maritime interests are pursued most actively from the point of view of political, military, economic, and socio-cultural developments.

It is in these regions and the sea basins that fall under Polish jurisdiction, that the Polish maritime forces should maintain permanent national, allied, and coalition presence, which would maximize the security level. These forces should actively participate in NATO, EU, and local, international coalition activities in European regions that are particularly subjected to permanent or temporary threats to peace and order. Joint operations with the aim of the protection of the EU and NATO countries' borders should be maintained at all times. Additionally, the Polish maritime forces should support Polish research and science institutions, especially those that are working in the Arctic and Antarctic regions. This results in promoting Polish science worldwide, and is related to an increase in Poland's position on the international scene, and may bring measurable economic gains (e.g. access to resources).

The Polish Navy should participate in NATO and EU operations that secure joint strategic interests of maritime security that take place outside of European waters (incl. out-of-area operations¹), in those areas of vital importance to national interests.

Primary deployment area of the Polish maritime forces

In the case of countries inside NATO and the EU, including Poland, primary deployment area needs to be defined.

Primary deployment area should be defined as those waters where the possibility of the use of maritime forces is the highest because of national interests, alliance or coalition obligations, or the nation's aspirations (political, military, or economic).

When Poland joined the NATO alliance it unambiguously committed itself to the North Atlantic area (north of the Tropic of Cancer) to yield help to any attacked part or parties of the alliance by taking immediate individual and coordinated action, military action not excluded necessary to restore and maintain security in the attacked country (article 5 of the North Atlantic Treaty). Areas vital to the security of the member states of the alliance should be deemed as primary deployment area for the Polish maritime forces and the Polish Navy in particular.

1.4. MARITIME SECURITY ENVIRONMENT

Because of the endlessness of the seas and overlapping maritime interests of nations, no country can afford to limit its security actions only to its own sea basins. A maritime nation needs to

¹ So-called out-of-area operations mean operations not related directly to the execution of Art. 5 (North Atlantic Treaty) but to other core tasks as provided in the Alliance Maritime Strategy.

shape favorable conditions for activities consistent with the will and interests of the nation also in the areas deemed vital and located all over the world.

The Baltic aspect

The NATO *Alliance Maritime Strategy*² defines the sea as one of the basic spaces of the deterrence and collective defense policy, crisis management, and cooperative security. It emphasizes the necessity for the development of the Alliance's naval potential in connection to its role in maintaining the maritime security of its members. It puts emphasis on strategic and operational issues, those connected with the deployment of major parts of the NATO deterrence and air defense system in the sea environment as well. The Standing NATO Maritime Groups (SNMG) area is treated as one of the key components of the NATO response force for maintaining sea control, which is a vital condition for victory in most conflicts.

The Baltic Sea is a node of activities for many countries of various strengths and diverse activities. Poland is engaged in the work of the National Coordinators for the *EU Baltic Sea Strategy* and the Council of the Baltic Sea States, which define security as one of three priorities (e.g. in the context of nuclear and radiological protection). Our Baltic activities may also be used in developing the relations inside the Visegrad Group.

In the case of military and non-military threats in the region of the Baltic Sea one needs to include the so-called hybrid threats³ (of various scale and intensity), covertly prepared and aimed at one, several, or most of the countries of the regions. These operations may target critical maritime infrastructure in particular, e.g. harbors and bases, underwater cables, pipes, and platforms. The progressive militarization of the Baltic Sea, which is mostly the result of Russia's actions, is not without significance, as emphasized in the official Communiqué adopted at the Warsaw NATO Summit 2016.

The European and Euro-Atlantic aspect

NATO and the EU are two major institutions that guard Europe's maritime security. The character of contemporary threats and dynamic changes in the area of European security make the two organizations work closely together to provide joint prevention, improve operational cooperation in the area of EU and NATO maritime operations, and declare further deepening cooperation⁴.

The EU is concerned not only with its maritime interests, but wants to share responsibility for the security of the global marine area. The *EU Maritime Security Strategy* treats threats and risks as global issues. They include: respecting the shipping rights and transport freedom, legal execution

² *Alliance Maritime Strategy*, http://www.nato.int/cps/en/natohq/official_texts_75615.htm (accessed January 17, 2017).

³ Hybrid threats – include different methods of use of force (military and non-military) by regular and irregular warfare, open or covert actions, which can be applied in a coordinated way by state and non-state actors, incl. cyber, economic, psychological, and information (propaganda) operations, etc.

⁴ Compare: *Joint declaration by the President of the European Council, the President of the European Commission, and the Secretary General of the North Atlantic Treaty Organization*, http://www.nato.int/cps/en/natohq/official_texts_133163.htm (accessed: January 18, 2017).

and jurisdiction over marine areas of member states, the security of citizens and economic interests at sea, transborder and organized crime, as well as terrorism. One of the major current issues connected to security is a result of the immigration crisis, which is without doubt a maritime affair.

In this Euro-Atlantic context, lies the concept of reconstruction of the NATO maritime forces and strengthening the Standing Naval Forces (SNF) of the Alliance, which, in accordance with the provisions of the Warsaw Summit, should be equipped with additional capabilities to conduct such maritime security operational tasks as freedom of navigation, maritime interdiction, and protecting critical infrastructure.

The global aspect

These maritime security challenges can become both threats and opportunities, if appropriate actions are taken: projected doubling of commercial exchange during the next 15-30 years, demographic changes (society getting older in more developed countries, unequal population growth) and migration, the actions of the so-called rising powers, the erosion of international institutions, climate change, competition for access to global resources (global commons – energy raw materials, the global waters, airspace, cyberspace). Another major factor is connected to the dynamical development of unmanned platforms (systems) used by countries and other organizations. The lack of threat to life while employing these devices may encourage their use to achieve goals by countries and organizations, which would otherwise be regarded as too risky.



Polish frigate leaving the Port of La Valletta
Battle ensign handed out by the President
of Poland on the mast. September 2016.
Photo: Szymon Hatłas

CHAPTER 2. POLISH MARITIME FORCES

The concept of modern maritime forces stems from the entirety of the human maritime activity of nations, whose development and value have been shaped by the sea, whose security and well-being have been inseparably connected with their naval fleets. These in turn are a visual emanation of those countries' power. In the case of Poland, which is a country with a continental approach but no defined policy towards maritime matters, the situation of the maritime forces has always been difficult. This is supported by the historical summary presented below which describes the attitude of the Polish nation towards the sea as well as by the final conclusions that define the state of all components of the Polish maritime forces and the Polish Navy in particular. The placement of maritime forces in the present international maritime security environment has been presented in three contexts: political-military, economic, and socio-cultural. Special attention has been given to the specific character of service on the sea by concluding that the human factor is an element crucial to developing operational capabilities of every navy, including the Polish Navy.

2.1. POLISH MARITIME FORCES FROM A HISTORICAL STANDPOINT

For centuries, the Baltic Sea has been one of the most important seas of Europe. Its northern regions, coasts, and the straits that connect them to the ocean shaped the fate of Nordic nations. The southern coastline affected the people and nations that came from the region of the North Sea. The Hanseatic League (Hansa) dominated these regions from the middle of the 13th century to the end of the 15th century. It controlled the Baltic trade routes and fishing, becoming a major political and military force. Its reach in the east corresponded approximately to the present range of the Baltic members of NATO. Formally, the League has never been disbanded and as an organization may be treated as a forerunner to European commercial communities.

With time, the Hansa was replaced by the rapidly developing sea empires of the Netherlands and Great Britain. Grain and construction materials needed for the building of ships from Baltic harbors were the basis of those countries' power. On the brink of the 17th and 18th century, tsar Peter I captured a wide access to the Baltic Sea, effectively connecting Russia with the Western world via sea routes. At the same time, the I Commonwealth of Poland, not counting a few episodes, practically gave away this area of activities to other countries. It did not use its coastline effectively, thus sustaining political and economic losses in the case of the country, and cognitive and intellectual losses in the case of the nation.

Only after Poland reacquired its independence in 1918 did the country *de facto* become an important player on the Baltic Sea, and thus the idea of a "Maritime Poland" became one of the guarantees of the country's independence, national post-partitioning integration, and the basic element of its economic-social modernization. A free and safe access to the Baltic Sea was a part of the January 1918 Declaration by the US President Thomas W. Wilson on the post-war order of Europe, sanctioned in 1919 by the Paris Peace Conference, acknowledged symbolically by Poland's Wedding to the Sea in February 1920 in Puck, performed by general Józef Haller. By the order of the commander of the Armed Forces of Poland, Józef Piłsudski, dated November 28, 1918, the Polish

Navy was created. Poland was to be an active participant on the Baltic Sea in contrast to the previous activities limited to maintaining control of the coastal regions. Gdynia, a city, harbor, and naval base has become a proof of the nation's commitment to the idea of "Maritime Poland."

After the end of the II World War, the Polish Navy functioned only in the context of a potential armed conflict in accordance with the interests of the USSR, as a support for offensive land operations of the Baltic members of the Warsaw Pact. In spite of this, during the reign of the communist party, maritime industry was being developed in the form of rebuilt harbors and commercial fleets, deep sea fishing, and shipyard industries supported by specialized scientific and training facilities. Acquiring access to the Baltic Sea after the II World War (440 km of coastal borders, 770 km of coastline⁵) was widely recognized as a historical event used to develop Polish activities on other seas and oceans.

After the end of the Cold War, the Baltic Sea underwent key political, economic, and military changes. Their scope was unprecedented when compared to other European seas. These processes seriously undercut the amount of combat forces – naval, airborne, and coastal as well as their support in the form of naval and air bases (in Poland as well). The table presented below presents the scale of changes in the Baltic navies and present directions of their development.

Table 1. Comparison of the number of given types of warships belonging to countries of the Baltic region during the Cold War (Weyers Flottentaschenbuch 1977/78) and now (IHS Jane's Fighting Ships 2015). Lithuania, Latvia, and Estonia do not have these types of warships.

| Country | SSK | | DDG FFG | | FFL | | MTB | FPB |
|---------------------|------|------|-----------|------|------|------|------|------|
| | 1978 | 2016 | 1978 | 2016 | 1978 | 2016 | 1978 | 2016 |
| DENMARK | 6 | - | 2 | 3 +2 | 3 | 4 | 20 | - |
| FINLAND | - | - | - | - | 4 | - | 5 | 8 |
| NORWAY | 15 | 6 | 5 | 5 | 2 | - | 40 | 6 |
| POLAND | 4 | 5 | 1 | 2 | - | 1 | 12 | 3 |
| WEST GERMANY | 24 | 5 | 11 | 10 | 11 | 5 | 40 | 4 |
| EAST GERMANY | - | - | - | - | 1 | - | 30 | - |
| SWEDEN | 20 | 5 | 6 | - | 2 | - | 30 | 9 |
| RUSSIA (BALTIC FLT) | 20 | 3 | - | 5 | - | 11 | - | 4 |
| NATO COUNTRIES | 45 | 16 | 18 | 22 | 16 | 10 | 100 | 13 |
| Total | 89 | 24 | 25 | 27 | 23 | 21 | 177 | 34 |

Source: own elaboration. Abbreviations: SSK – Submarine, DDG – Destroyer, FFG – Guided Missile Frigate, FFL – Corvette (this category includes the so-called light frigates that do not meet the conditions for a modern frigate), MTB – Torpedo boat, FPB – Fast patrol boat.

The data presented in Table 1 clearly shows that Baltic countries that were members of NATO in 1978 (West Germany, Denmark, Norway) decreased the number of their submarines from

⁵ Polish Small Statistical Yearbook 2016, <http://stat.gov.pl/download/gfx/portalinformacyjny/pl/defaultaktualnosci/5515/1/17/1/mrsp.pdf> (accessed: July 4, 2016).

45 to 11, the number of light assault ships (TS/MS) from 100 to 13, the number of corvettes from 16 to 10 (including 4 Danish ships operating in the vicinity of Greenland and Faroe Islands), the number of major class destroyer/frigate ships increased from 18 to 22 (including 2 Danish command ships supporting joint and special operations in a new type of military conditions of hybrid and asymmetrical wars). The Russian Baltic Fleet has undergone a similar reduction of the amount of warships in the corresponding timeframe.

Presently all Baltic countries apart from Russia, and neutral Sweden and Finland are a part of NATO. All Baltic countries apart from Russia belong to the EU⁶. The collapse of the dualistic structure of the world as well as social and system changes in Central and Eastern Europe in the last decade of the 20th century, as well as globalization have increased the importance of the Baltic Sea to Poland. The introduction of Poland to NATO structures in 1999 and to the EU in 2004 has greatly increased opportunities for modernization through close, comprehensive relations with maritime countries and development of the nation's maritime potential. These opportunities, however, are not being taken advantage of in the case of maritime policies.



2.2. THE NATURE OF MARITIME FORCES

The unique opportunities arising from the character of the sea, and also the traditional autonomy, distinctiveness, and differences of its maritime forces, and the Navy in particular, are one of the State's more important instruments, not only of military, but also political and economic actions. Maritime forces are also used with social, cultural, and scientific goals in mind.

Maritime forces of Poland include all of the forces and resources of the country that are used to conduct its policy at sea. They include: the Polish Navy with hydrographic

⁶ Baltic states include: Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Poland, Germany, and Denmark. Norway is treated as a Baltic state as well because of political, military, historical, and economic reasons but geographically speaking it is not a Baltic state.

services, maritime special operations units, the Maritime Regional Unit of the Border Guard, local maritime administration institutions, the Maritime Search and Rescue Service, the Customs Service, the water police, and other maritime security agencies.

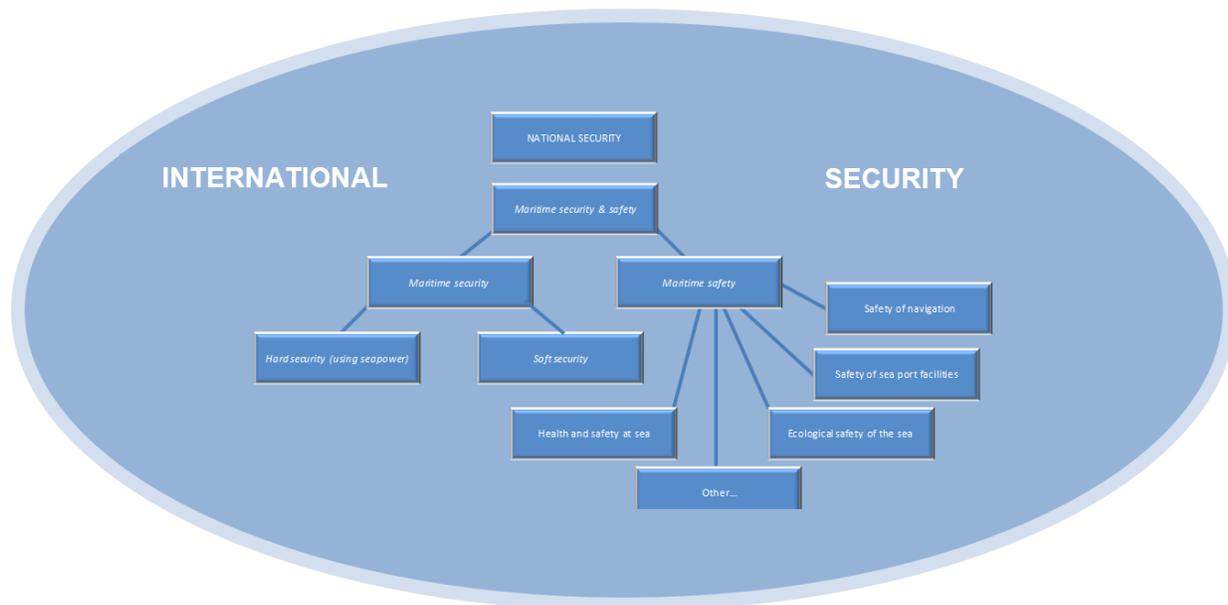
Navies are not only military forces, but also a multi-purpose instrument of a state policy, that enhance its development and contribute to the achievement of goals.

The Navy, thanks to its versatility, is a natural choice for the creation and development of alliances that facilitate the accomplishment of the State's interests. Thanks to the international law of the sea and freedom of movement, the Navy's ships can be used to present political determination and secure national and allied maritime interests without formal breach of the territory of potential enemies. Nowadays maritime forces and the navy in particular are the most widely recognized and politically accepted form of army presence. Finally, the navy extends its usefulness as an integral and indispensable component of the national maritime industry.

The contemporary use of the maritime environment may be linked to four attributes: the sea as a source of natural resources (animate and inanimate); as means of transportation – shipping and commercial exchange (logistic structures of global and regional value); as a platform for spreading ideas, culture, and information; as a resource of dominion (to conduct a policy of power and domination). All maritime activities (military or commercial), however, as a rule are characterized by their international nature, which in turn may make them common with the interests of other countries or organizations, or divergent or even conflicting. This is why each maritime nation maintains maritime forces appropriate to their economic conditions and external national ambitions. Their goal is to support the nation's interests in all four types of attributes described above.

The complexity of the maritime environment has led to the distinction of: *maritime safety and maritime security* (the English terms security and safety, despite their differences in meaning, in the Polish language share a single counterpart, i.e. *bezpieczeństwo*. This causes terminological misunderstandings). The former is connected with safety at sea and includes the so-called *maritime safety and health regulations*, safety rules for health and assets from the dangers of the sea generated by its physical and geographical aspects as well as operational characteristics. These regulations also describe safety rules in connection to dangerous by-products of human maritime and coastal activities. The latter may be described as the State's maritime security. This group of actions should provide the ability to cope with all challenges and threats connected with the maritime environment. It may be divided into two segments: *hard security* which is the sole domain of war fleets (the use of the sea for dominance) and *soft security* (that is the protection of all other human maritime activities) which is the domain of both war fleets and other governmental forces (border guard, water police, customs service, maritime administration, and others). Soft security is also the domain of private entities. This distinction led to the division of maritime forces into *armed instruments* and *others*.

Figure 2. Maritime security in the international security environment



Source: own elaboration.

Navies are flexible, versatile, and geographically unrestrained in their actions. They can carry out various missions connected to all types of maritime security. Military theoreticians divide them into three basic functions: **military**, **diplomatic**, and **constabulary** roles (the protection of the legal order on the sea). When on the sea these three are practically indivisible – each ship commander achieves them continuously and often performs all three functions simultaneously.

The human factor is one of the most important notions in the present times and in the foreseeable future when it comes to creating operational capabilities of maritime forces and navies in particular. Trained and experienced crews are as rare as advanced warships, especially in a situation when the awaited and required changes in the fleet structure will lead to a generational technological leap in military equipment. The new challenges that the maritime forces will be facing will require the verification of the methodology of training as well as an inspection of the courses employed by training facilities. Apart from appropriately prepared courses on specialized and generalized knowledge special emphasis should be placed on practical training during the first steps of a maritime career, and practical service on the sea during the later steps. These should facilitate the required durability and resistance, two traits that are inseparably connected with military service on the sea. Special emphasis should be placed on leadership traits that shape the character of a future warship commander. These include integrity, imagination, decision making, composure, precision, team leadership skills, developed motivation to act, and the ability to define clear, objective-focused aims. These characteristics should be developed through the entirety of the education and the training process.

2.3. THE COMPONENTS OF POLISH MARITIME FORCES

The Polish Navy with hydrographic services is an instrument for pursuing State interests in maritime environments, as a seaborne protection of the coast and land in cooperation with other Armed Forces as part of the joint operations force. **The primary task of the Polish Navy is the protection of the territory of Poland and collective defense of NATO countries as well as the strengthening of the allied deterrence system.** The Polish Navy also takes part in NATO crisis management missions as well as activities that deepen the relations of international cooperation (cooperative security). In order to fulfill these tasks the Polish Navy shall be equipped with modern floating, air, and land platforms which tactical and technical capabilities that are relevant to fight off security threats. In accordance with international obligations, the Polish Navy maintains and develops the capabilities to carry out maritime security missions in the Baltic region and outside of it.

Special operations units. The operations of maritime special units in the context of the Polish Navy include: special reconnaissance; direct action; military assistance – support to allied forces or the forces of other countries in terms of organization and combat operations; sea control which can include: maritime navigation inspection, protection of maritime routes, maritime interdiction operations, and implementing embargoes on commercial ships – during these operations the maritime special forces may act as assault units. Polish special maritime operations units mainly include: Military Unit FORMOZA and Combat Unit B of the Military Unit GROM

Border Guard. A police formation, where its tasks at the state border are assigned to: sea border and sea ports: **Maritime Regional Unit of the Border Guard (MUBG)**, air control: Director of the Border Management at HQ of the Border Guard (HQBG) by I Air Department of HQBG. MUBG is one of eight units of BG dedicated to the protection of the coastal State border of the State and Polish maritime zones. Among the main missions of the Maritime Border Guard Department are: international cooperation with border control institutions (especially as part of the FRONTEX agency); control over resource acquisition within the Polish maritime zones, and law enforcement over ships and the pursuit of offenders; prevention and elimination of threats to ships, harbor facilities, and their infrastructure; taking part in search and rescue missions at sea; prevention of illegal transport of hazardous materials, narcotics and psychiatric medicaments, weapons, ammo and explosives through the maritime border; executing the regulations of the International Ship and Port Facility Security Code; protection of the maritime environment; cooperation with other agencies and state administration institutions in the maritime areas.

Local maritime administration agencies. Three regional directors supervise the work of maritime administration in the Maritime Offices in Gdynia, Słupsk, and Szczecin. The Offices act in the Polish maritime regions. The Maritime Offices are also responsible for the Polish maritime zones, harbors, and ports, the coastal zone and in particular, an area called the technical strip (band). The terrain branches of maritime administration also conduct audits and inspections and impose sanctions, such as financial penalties imposed by way of an administrative procedure and fines for violation of such legal regulations for which those authorities are competent. The directors

of the Maritime Offices can also provide documents recognizing necessary qualifications for professional positions on commercial ships and yachts.

Maritime Search and Rescue Service (SAR). The Maritime Search and Rescue Service is a state agency working under the ministry responsible for the maritime economy. Its tasks include search and rescue of each and every person under threat in maritime conditions (without consideration of the reason for such a situation) and elimination of threats and pollution from oil and other chemicals. It cooperates with other units of the Polish maritime forces, mainly with the Polish Navy (Search and Rescue Helicopters) and the Maritime Border Guard Department. The Maritime Search and Rescue Service acts on the basis of the *Search and Rescue Plan* and the *National Plan for the Elimination of Threats and Pollution of the Maritime Environment*. SAR acts in areas called search and rescue regions (Polish SAR responsibility regions). The minister responsible for the maritime economy is advised on topics of search and rescue by the SAR Council with the General Commander of the Branches of the Armed Forces as Chair.

The Customs Service (The National Treasury Administration, as a planned future form of tax, customs, and treasury administration) is a uniformed service of the Ministry of Finance. It is a law enforcement agency whose actions are connected to the identification and investigation of tax and customs crimes in Polish territorial waters and harbors.

Water police (specialized unit of the Prevention Department of the Police) is a uniformed and armed force. Its aim is the protection of people and property, and the maintenance of security and public order on territorial and inland waters. This force is a part of the police. Its actions are focused on the protection of the population in the vicinity of water, saving drowning people, the protection of the environment, and search and rescue operations during natural disaster situations.

The Polish maritime forces are complemented by **other entities** connected to the country's maritime security, including entities acting as a part of military schools, scientific institutes, training, and sailing centers, which focus on the promotion, spreading, and facilitating of maritime education and science in regard to maritime security. Maritime forces constitute an important element of the national security and defense systems.

2.4. MARITIME FORCES IN THE POLITICAL-MILITARY CONTEXT

In order to describe the present situation of the armed components of the Polish maritime forces (in particular PN) and to define their development perspective we need to introduce crucial theoretical basics.

Use of war fleets in the 21st century

Figure 3 presents missions for war fleets in the first half of the present century in the context of their three basic functions. Additionally, war fleets act as instruments of maritime diplomacy in operations other than war. Contemporary conflicts are characterized by a very complex nature. Solving them requires the ability to act in many different spheres, which are interdependent. We shall distinguish at least six spheres of engagement: political, military, economic, social, critical infrastructure, and information. Changes in modern armed conflict (introduction of asymmetrical or hybrid conflicts) have led to developments in maritime war fleet activities as well. Armed operations of the *fleet versus fleet* formula are less likely and they can be related mainly to conflicts between sea powers or maritime coalitions with global reach. In the modern world, maritime diplomacy is tasked with resolving conflicts and tensions as well as crisis management.

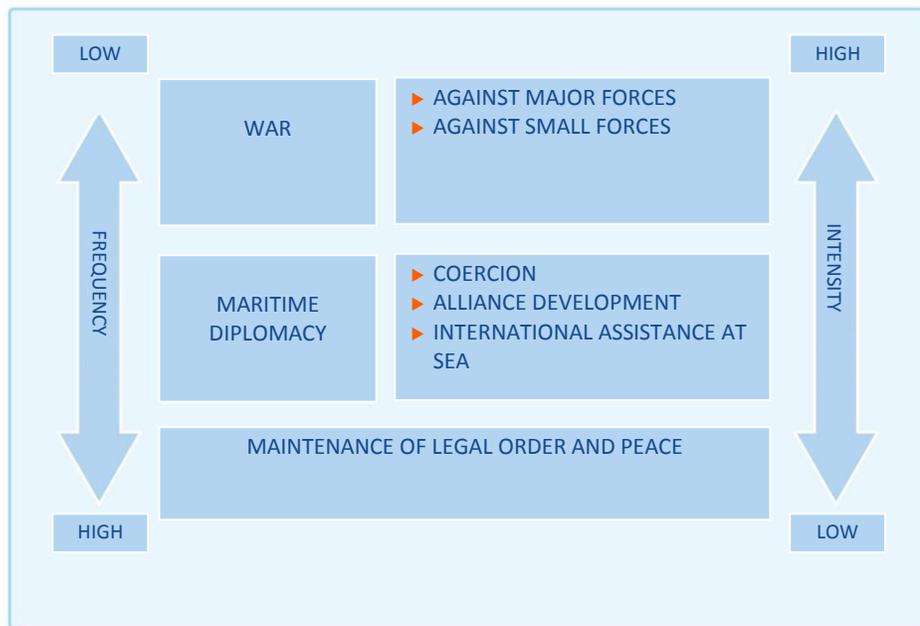
Modern maritime theory identifies three universal tasks for every navy:

- conflict prevention;
- legal order and maritime security protection;
- building and maintaining combat capabilities, incl. as an element of deterrence policy and power projection;
- promotion of ideas of partnership and cooperation;
- protection of economic interests of the State;
- alliance development and maintenance;
- humanitarian aid.

Where the military function is concerned, large war fleets are no longer used to ascertain maritime dominance, but to deploy forces from the sea to the land in any part of the world. It is the land where the fate of wars is settled and because of that, naval fleets play the biggest role in the areas where they can project power ashore.

The use of ships as "mobile" bases (seabasing) operating from international waters with a prolonged operational time due to shipments of resources, eliminates such inconveniences as the need for supporting and protecting forward sea bases or the necessity to acquire flight clearances when operating in the air space of a third party. The ability of the country to focus the resources of the fleet and broaden the scope of its activities in relation to the land environment may be treated as an argument in the discussion about the increasing role of naval fleets in the near future in the context of international affairs.

Figure 3. Projected use of war fleets in the first half of the 21st century



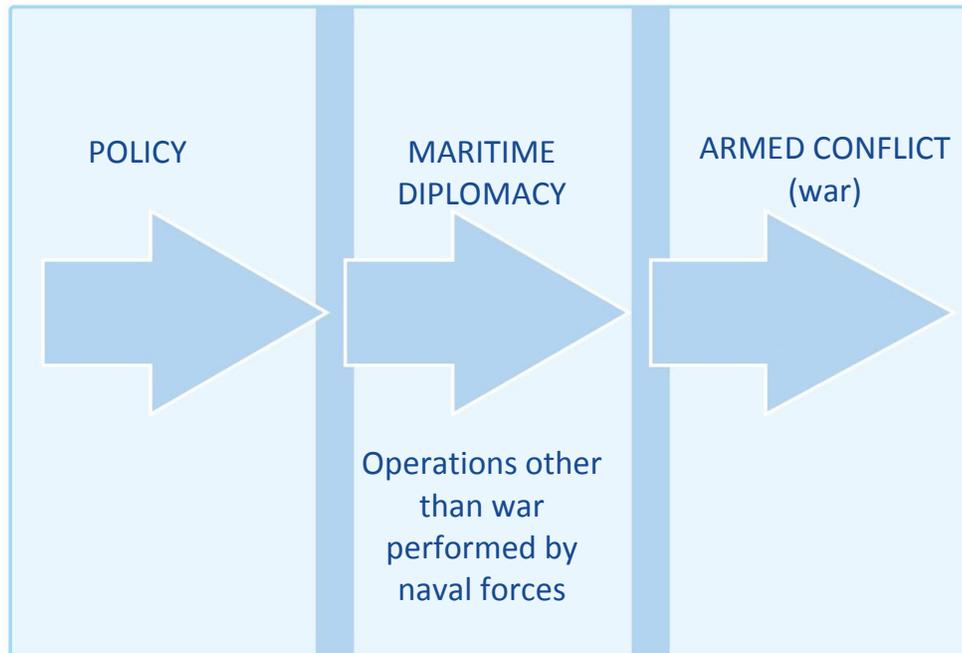
Source: own elaboration. Jacob Børresen, *The Seapower of the Coastal State*, [in:] Geoffrey Till, *Seapower. Theory and Practice*, Frank Cass 1994, p. 180.

The naval fleet characteristics described below may undergo changes if the nature of threats and security challenges develops. The role of war fleets may be endangered by the constant development of long range attack systems and other A2/AD systems. Their goal is to keep the enemy war fleet far away from the shore line (own shore lines as well) so that it cannot impact the conflict, including hindering providing allied reinforcements by sea. Other methods, such as elements of asymmetrical or hybrid wars, may be employed to that means.

Modern maritime forces, however, still offer a unique combination of firing power (with floating, flying, and land platforms), speed, and flexibility useful in any security situation where the prediction of danger and development of prevention methods are difficult. Modern war fleets function uniquely as a global stabilization factor (conflict prevention) in a world with many local wars, conflicts, and crises. Hence, the cooperation of warships in international groups (as part of international organizations, alliances, or ad hoc coalitions) has become a standard practice.

Experiences with the use of war fleets at the turn of the 21st century imply that in most cases they are used in operations other than war or in crisis management and maritime diplomacy activities (Fig. 4). The natural capabilities of war fleets are the reason for this use. They include: **forward presence, flexibility**, and the **maintenance of combat readiness for a prolonged time**. The presence of warships does not interfere with international laws if they are placed outside the territorial waters of a coastal country.

Figure 4. Projected use of war fleets in the first half of the 21st century



Source: own elaboration.

Figure 4 presents the projected scope of modern maritime operations. Not every operation, however, may be carried out by the maritime forces of one country. This is why during the planning of their development and use it is vital to concentrate on key elements. This type of planning should take into account three rules: **desirability** (the use of forces according to the country's interest, also in the context of an alliance), **operational freedom** (granting the Polish maritime forces as much influence on the operation as it is possible, e.g. on the rules of engagement and involvement in command structures) and **economy of force** (optimal use of resources to achieve particular goals). The decision to involve Polish maritime forces in international operations is a result of the analysis of political, legal, military, and financial criteria. Each use should be decided by the appropriate government institution with a particular interest of Poland in mind. All negotiations regarding the advantages for Poland arising out of engagement in an operation shall be closed before communicating a decision on such involvement to the public.

Modern and future maritime operations, including peace keeping and stabilization missions, are not limited only to military activities. These missions involve other activities, such as political, diplomatic, economic, and social actions. For them to succeed a close collaboration is needed, at the international as well as national level, including successful civil-military cooperation. It shall be stressed here that sea warfare operations are merely an enabling factor and as such, they do not constitute a decisive factor in a key strategic environment – that being the land – as it is the land that still matters most⁷.

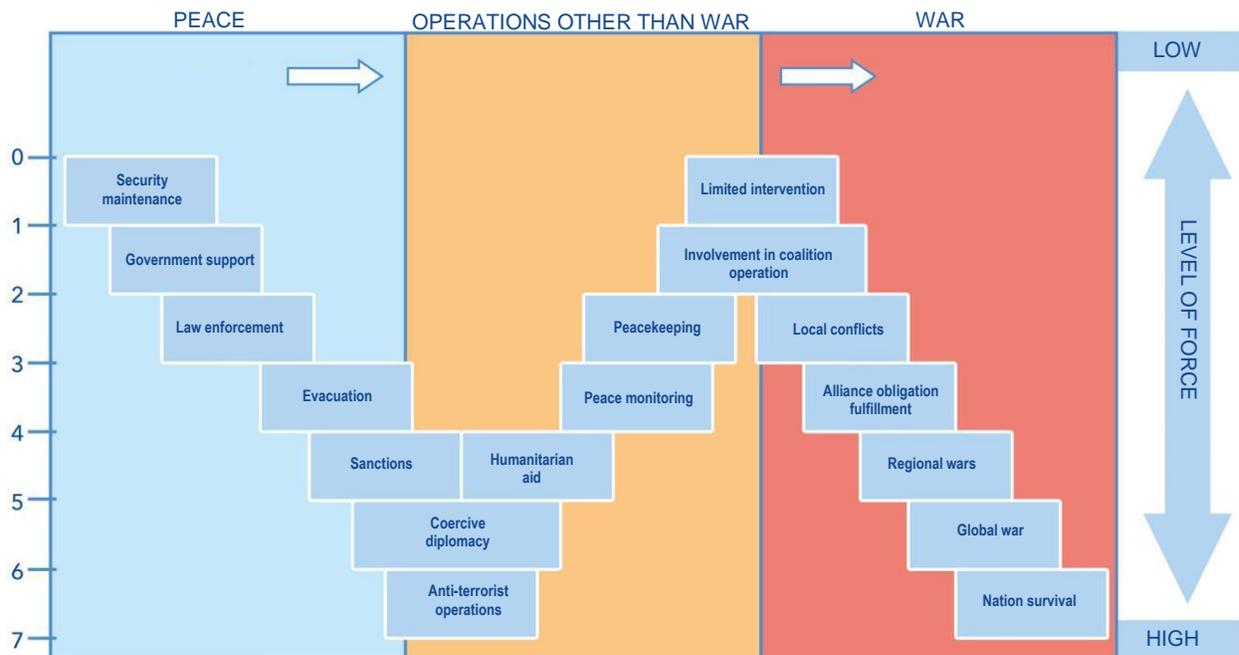
⁷ J. Bartosiak, T. Szatkowski, *Geography of the Baltic Sea. Military Perspective*, NCSS, Warszawa 2013, p. 22, <http://www.ncss.org.pl/>, <http://tiny.pl/gd64w> (accessed: January 17, 2017).

Polish Navy's ship-based helicopter
Kaman SH-2G Seasprite
Refueling at sea.
Photo: Grzegorz Sowa



The internal division of authority in the maritime forces is a major topic. There are various practices and experiences in connection to this topic (some coastal and island countries do not possess any navy, only border guard units). Because of this any attempt at such a division needs to take into account that the border guard and civilian organizations (maritime administration, security services, and other parties involved in maritime security) should uphold the legal order in their maritime areas while the Navy is responsible for the security of the country (including the protection of its maritime activities).

Figure 5. Scope of modern maritime operations



Source: own elaboration on the basis of: *Australian Maritime Doctrine: RAN Doctrine 1*, 2010, p. 52.

At the beginning of the 21st century, smaller war fleets face particular challenges in the form of their development directions as well as financial and operational use, which in turn translate to the level of readiness to act. The Polish Navy is not facing these problems in an efficient manner. Without changes to the doctrine or the military system, the Polish Navy may not be able in the near future to effectively cooperate with the maritime forces of other countries. This in turn may lead to a situation where the Navy is unable to sustain national and regional stability.

The conceptual differences between small and large navies are no longer treated in terms of size but of quality. Previous experiences lead us to the argument that a navy's efficiency is not connected with its size. Even with the use of limited resources, it is possible to create a navy (placed in an appropriate allied structure) that will prevent any attacker from damaging the security interests of our country.

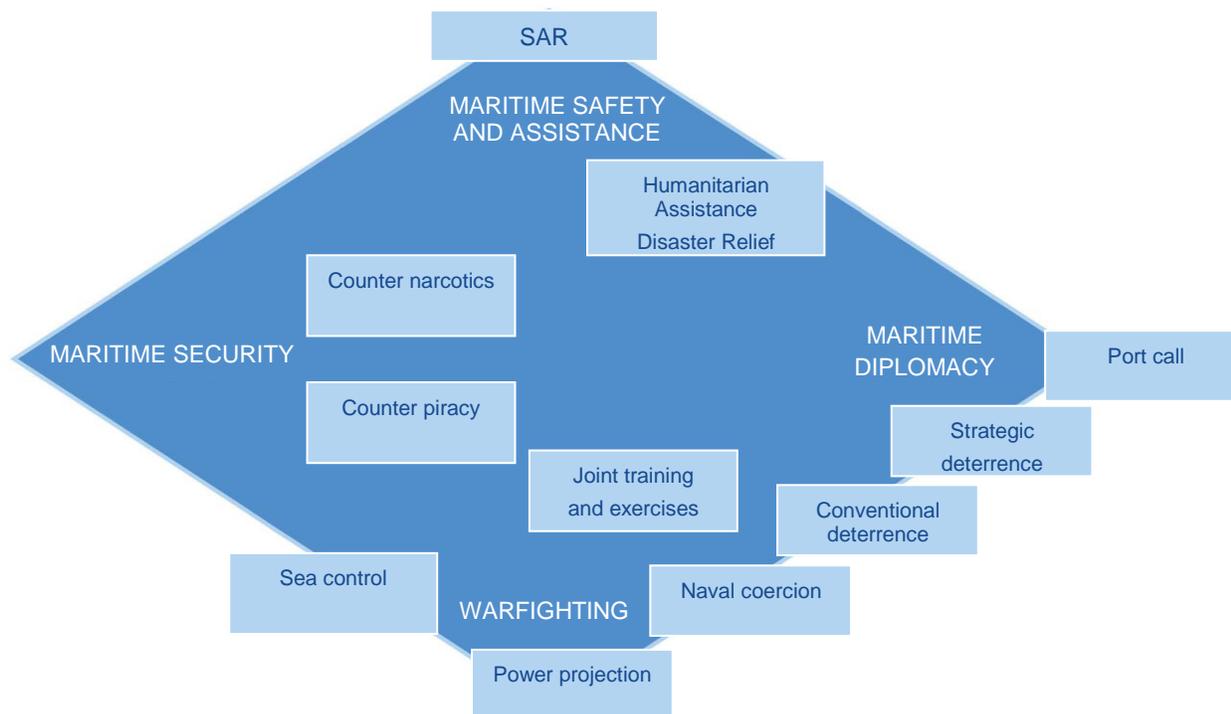
Figure 6 presents various missions (tasks) that take into account the versatility of maritime forces. The Polish Navy should be able to accomplish these missions on the level of a medium-sized fleet.

Maritime operations include:

- command, control, communications, computers, intelligence, surveillance, reconnaissance tasks (C4ISR)
- elimination of seaborne and submarine units
- air defense at sea and from the sea
- naval fire support (including power projection ashore)

- asymmetrical operations maritime interdiction operations
- minelaying and minehunting warfare
- amphibious and anti-amphibious warfare
- military cooperation.

Figure 6. Maritime forces and their projected role in the 21st century



Source: own elaboration on the basis of: Christian Le Mière, *Maritime Diplomacy in the 21st Century: Drivers and Challenges*, Routledge 2014, p. 122.

Polish Navy – the current state

The Polish Navy comprises these forces: 3. The 3rd Ship Flotilla (3FO) in Gdynia, 8. The 8th Coastal Defense Flotilla (8FOW) in Świnoujście, the Hydrographic Bureau of the Polish Navy in Gdynia, and the Naval Aviation Brigade in Gdynia acting as a part of the Air Force. The Polish Navy also uses coastal units, which consist of combat and support units for the support of warship and naval air force operations.

The Hydrographic Bureau of the Polish Navy works closely with the directors of the maritime offices and other entities to perform its **hydrographic duties** connected with the performance, coordination, and control of hydrographic and cartographic activities, publication, and nautical information.

The Polish Navy forces command structure includes:

- **General Command of the Branches of the Armed Forces** that includes the **Polish Navy Inspectorate (IMW)** which is responsible for the development of conditions for the training of commanders, staff, and the army. Additionally, the Inspectorate prepares the Polish Navy

for combat operations, coordinates, organizes, and controls activities connected with developing operational capabilities as part of operational programs. The Inspectorate monitors the level of training of army components that are involved in alliance, coalition, and international operations, strategic protection, and search and rescue operations, the elimination of the effects of equipment failures and natural disasters. It acts as the purchaser's representative in the case of equipment and weaponry purchases by the Polish Navy. It supervises the tactical groups of the Polish Navy and the Hydrographical Bureau of the Polish Navy.

- **Maritime Operations Centre – Maritime Component Command (COM-DKM)**, subordinated to the Operational Commander of the Branches of the Armed Forces, a unit on a tactical level – its aim is to provide command in times of peace, emergency, and war over the Polish Navy, Land Forces, and Air Forces tasked with maritime operations.

Polish Navy ship forces for combat operations include⁸:

- submarines:
 - 1 Kilo class (1986)
 - 4 Kobben class (1964 – 1967)
- main surface combat vessels:
 - 2 guided-missile frigates OHP class (1980)
 - 1 anti-submarine corvette Project 620 (1987)
 - 3 light fast attack craft Project 151 (1992 – 1995)
- mine warfare ships:
 - 1 mine countermeasures operations command ships Project 130Z (2001)
 - 3 minehunters Project 206 FM (1966 – 1967)
 - 1 minesweepers Project 207D (1982)
 - 4 minesweepers Project 207M (1992 – 1994)
 - 12 minesweepers Project 207P (1984 – 1991)
- seaborne landing craft:
 - 5 minelayer-landing ships Project 767 (1989 – 1991)
 - transport craft Project 716

The Polish Navy also uses support and combat support ships, which include:

- assistance units:
 - 1 training ship (1988)
 - 1 tall ship (1982)
 - 2 radar reconnaissance ships (1975)
 - 2 hydrographic ships (1982)
 - search and rescue ships (1974 – 1987)
 - 2 seaborne degaussing stations (1971 – 1972)
 - 1 tanker (1991)

⁸ The date of commission in the Polish Navy or other navies is given in brackets.

- base seaborne craft:
 - tugboats
 - transport motorboats
 - torpedo salvage ship
 - hydrographic research ship
 - hydrographic motorboat
 - motorless fuel barges
 - seagoing and bay yachts

The Polish Navy also uses coastal units that consist of combat and support units for the support of warship and naval air force operations. Combat units include coastal units armed with land-water missiles.

The current forces of the Polish Navy are **not adequate to the level of threats, challenges, and opportunities** generated by the country's maritime security environment, its goals, and the maritime area of operations. **Responding to major threats generated by Russia** in the Baltic Sea area is not possible with the use of present potential and with the forces claimed in the agreed Navy Modernization Program.

Maritime Special Operations Units – the current state

The maritime special operations units are small, flexible, highly mobile groups (Maritime Combat Task Groups) acting from the sea, on the sea, and under its surface.

High risk special operations that may have political, military, diplomatic, or economic repercussions are carried out individually or with the assistance of other branches of the Armed Forces. These groups are able to move only through short maritime distances and this is why they require the permanent assistance of the Polish Navy. Special Forces need to maintain constant combat readiness of the soldiers who perform visit board, search, and seizure operations (VBSS). This is why the warships of the Polish Navy are used not only as a means of transport but also as a base of operations for these forces.

The analysis of their potential, structure, equipment, and previous operations suggests that they are functioning in a proper and efficient manner. The coordination of their operations with other maritime forces, the Polish Navy in particular, needs to be improved.

Maritime Regional Unit of the Border Guard – the current state

The Maritime Regional Unit of the Border Guard is responsible for the protection of the state border at sea of 471 km, the land border with Russia of 0.85 km, the land border with Germany of 168.91 km, and performing tasks related to airport border crossings in Gdansk-Rebiechowo and Szczecin-Goleniow⁹. Their aim is to monitor and control sea traffic. The range of their operations

⁹ The numeric values should not be understood as the length of the state border or territorial waters.

includes communes (*gminas*) in the border zone, and communes and counties (*powiats*) outside the border zone, in total, covering 18% of Poland's borders.

MRBG covers 20 border crossings (18 port crossings and 2 airports) and 2 units of Border Guard vessels (Kaszubski Unit BG in Gdansk-Westerplatte and Pomorski Unit BG in Świnoujście). The protection of the country's sea borders is maintained through many layers of activities. The Automated Radar Control System is the basic tool used to protect Polish maritime areas. It enables a constant overwatch over the country's sea borders, its territorial sea, and internal sea waters through the use of stationary and mobile radar and optoelectronic devices. It is the platform for the cooperation of the Border Guard with maritime offices, the sea fishing administration, the Polish Navy and the Maritime Search and Rescue Service. The comprehensive report of the maritime situation developed by the Automated Radar Control System is complemented by information on ship dislocation from external systems. Additionally, the sea border is patrolled with the use of air and sea Border Guard vehicles. Five intervention-pursuit maritime groups are constantly located in five locations along the coast, including one on the Vistula Lagoon that enables swift interventions. Constant air ship shifts for patrol and reconnaissance purposes are maintained at the I Air Department Border Guard Headquarters in Gdańsk.

Maritime Search and Rescue Service – the current state

The Maritime Search and Rescue Service (SAR) consists of 12 Maritime Rescue Stations equipped with 11 maritime rescue ships, 8 Shore Rescue Stations and 2 Rescue Bases which include two special counter pollution vessels. The territorial range of SAR covers the Polish Search and Rescue Region (SRR) – with regard to life rescue and the Polish Exclusive Economic Zone (EEZ) – with regard to anti threat and pollution operations. Means and resources of SAR are equally dispersed along the Polish shore.



2.5. MARITIME FORCES IN THE ECONOMIC CONTEXT

Maritime economy

Polish maritime forces are the essential instrument for the provision of unhindered conditions for the development of the Polish maritime economy. The Polish maritime interests pertain to each and every sector of the maritime economy as it is classified by the Polish Classification of Activities¹⁰. It is based on the Statistical Classification of Economic Activities in the European Community. The Polish maritime industry is divided into 11 separate sectors (including maritime forces): sea and coastal transport, inland transport, security, mining, sea works, fishing, recreation, sea equipment (including ship equipment), sea construction, maritime services, and harbor services. The current state of the maritime economy is very complex. Its most important components are described below:

Maritime navigation and Polish energy security

Maritime transit is the least expensive means of transport of cargo. Additionally, it is able to deliver goods to most of the global population. The law of the sea and freedom of movement are the legal foundations for the security of this "bloodstream" of the global economy, enabling the free creation of routes for ships and warships even on territorial waters. As much as 90% of global goods are shipped via maritime means. This scale of transport would not be possible without maritime transport and harbor loading.

The Polish dependency on export is increasing reaching approximately 45% of GDP¹¹. Maritime transport is the cornerstone of the Polish economy. In 2015, domestic maritime turnover reached 1.3 million tonnes. International shipping in Poland amounted in total to 68.5 million tonnes (0.7 more than in 2014)¹². Annually tens of thousands of visiting ships are reported by the sea ports (the main sea ports of Poland include: Gdańsk, Gdynia, Świnoujście, Szczecin). This is not the full loading capacity of our ports. The ports of the Gdańsk and Gdynia area possess the largest container terminals in the Baltic region and aspire to the position of the main maritime hub of the Baltic Sea. The weight of containers loaded in Polish harbors has increased three times since 2008 even in spite of the temporary global financial crisis.

Sea-passenger traffic plays an important role for the economy. In 2015, 2.5 million passengers commenced or completed their sea journeys, i.e. 8.9% more than in 2014¹³.

The potential exclusion of Polish harbors would have a catastrophic effect on the lives of nearly every citizen of our country. The export of most Polish products and the import of a wide range of goods, including those used daily, would become very difficult. This situation would not only impact the everyday lives of Polish citizens, but also bring the country's companies to a halt,

¹⁰ The Statistical Classification of Economic Activities in the European Community – a systemic set of types of socio-economic activities in a given economy. Prepared on the basis of a publication by Eurostat: "Nomenclatures des Activites de Communité Europeene – NACE rev. 1".

¹¹ On a payment basis. The goods factor, according to the National Bank of Poland, is slightly lower (41.4% GDP for the first half of 2015); the goods and services factor is slightly higher (50.3% GDP, 1 h. of 2015). Functionally interpreted as 43% GDP (according to the Central Statistical Office of Poland for the 1 h. of 2015).

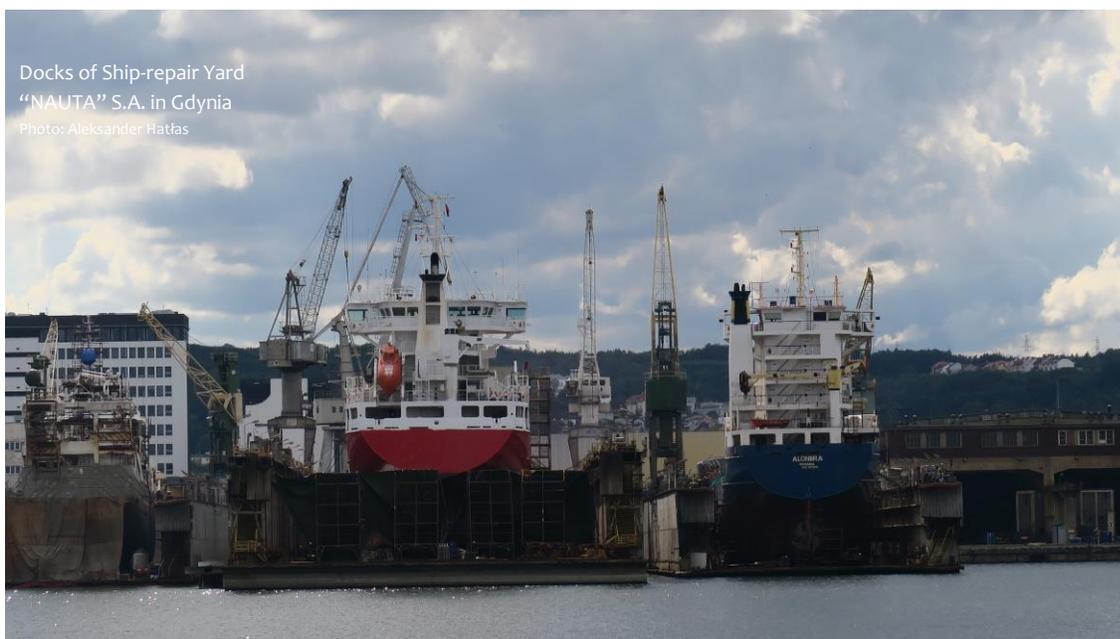
¹² *Gospodarka morska w Polsce w 2015 r. Opracowanie sygnalne*, GUS, Warszawa, 2016, p. 5.

¹³ *Ibidem*, p. 6.

which would result in economic breakdown and in the long run, a crisis. This is why maritime security should be permanently interwoven into Polish national interests and its development should become one of the key components of the country's functioning.

Energy security is one of the most important components of national security. It requires the diversification and continuous flow of raw materials. The coastal location of Poland creates opportunities for the realization of that goal. In 2015, Poland opened a LNG terminal in Świnoujście. The regasification capabilities of the Świnoujście terminal of 5 billion m³ can provide 1/3 of Polish natural gas demand. The expansion of the LNG terminal in Świnoujście will be accompanied by the construction of an underwater gas pipe, which will enable the delivery of natural gas from the Norwegian shelf of the Northern Sea. Another pipe, the *Baltic Pipe*, is planned to connect Denmark and Poland. Gdansk Northern Port holds the liquid fuels terminal "Naftoport," which in case of emergency has the capacity to receive 60 million tonnes of crude oil annually (the Gdansk-Płock pipe-line has a capacity of 30 million tonnes per year)¹⁴. The infrastructure of the gas port, along with the oil port, creates an instrument for the diversification of hydrocarbon delivery and increases Poland's resistance to potential energy security threats.

Among the listed transport chokepoints with key security value, a tank ship on the way from Qatar to Świnoujście will pass through four of them: the Strait of Hormuz, the Mandeb Strait, the Suez Channel and the Danish Straits. All of these chokepoints are under special control of the international community. One of the most important goals of the Polish Navy is the provision of security in those chokepoints (as part of alliances and coalitions).



Maritime construction and equipment

¹⁴ The two biggest Polish refineries in Płock and Gdańsk process annually ca. 24 million tonnes of oil.

The maritime construction and equipment industry (including the shipbuilding industry) should be one of the main sectors of the maritime economy with an important role in the development of the country's security. In this context, it shall be stressed that each factory of this sector may cooperate with hundreds of entities representing other sectors as sub-contractors or partners. Maritime construction shall be considered as one of the national economic drivers. The shipbuilding industry is the most important sector from the maritime security perspective, however, because of its competency deficiencies, connected with the lack of proper infrastructure, modern work organization, financial liquidity, managerial experience with Naval projects, and the knowledge of outsourcing methods, most of the shipyards (particularly those belonging to the State) possess a limited potential for the building of modern ships. These limitations pertain particularly to the size of ships and the use of more advanced technology. Even though the building of Polish Navy ships should involve these companies as much as possible (including Polish design offices), this means the Navy is susceptible to their limited shipbuilding capabilities. Particular care shall be paid to an increase of the Polish shipyards' potential, in accordance with the agreed actions for the Polish shipbuilding industry, which shall create the next elements of the shipyard "master-plan."¹⁵

However, the Polish Navy should acquire ships that are necessary for the maintenance of operational capabilities, not those that may at present be built by Polish shipyards¹⁶. This is especially true in relation to advanced combatant warships, which have never been built in Poland.

2.6. MARITIME FORCES IN THE SOCIAL-CULTURAL CONTEXT

One of the biggest problems that the Polish maritime forces, and the Polish Navy in particular, are facing is not connected to the shortage of "new" ships. It is the lack of maritime culture (sea blindness). This is why the need for the existence and creative use of present and future resources is not expressed in an appropriate way.

Navies belonging to maritime countries do not exist only to wait for their potential use in the event of war. On the contrary, they are actively resolving issues on a day to day basis. A navy needs to prevent emergency situations, eliminate them in their beginnings, move threats away from state borders, and it needs to work to maintain the order in the world that enables all types of human maritime activities to take place unhindered by undesirable threats.

¹⁵ General plan comprising principles, conditions, and forms of activity and development of the maritime construction industry and complementary industries.

¹⁶ Such an approach has been confirmed by the Commander-in-Chief of the Armed Forces President of Poland Andrzej Duda who indicated that it is extremely important "to acquire for the Polish Military such new equipment which shall correspond in the most perfect way first: with the expectations of the Polish military, second, with their needs, thirdly, with the requirements of the modern battlefield." (Speech by President of the Republic of Poland on the occasion of the ceremony of nomination to the rank of generals on November 11, 2016).



Our Navy's keynote (main mission) is still mistakenly defined and focused solely on the preparation for waging lonely war at sea. A derivative of such a perception is the idea of limiting the role of PN to defense operations on the Polish coast in case of military threats and closure of its operational activity in the Baltic Sea and its immediate vicinity. **It should be emphasized that wherever the Polish Navy has taken action – it defends the freedom and interests of Poland.** In our country's case, this attitude negatively impacts all other areas connected to social, political, and economic life which could be stimulated by maritime activities.

We should follow the examples of how the attitude to the sea was developed in Poland between the First and the Second World Wars. The idea of a "Maritime Poland," created and successfully developed by Minister Eugeniusz Kwiatkowski was treated as one of the most important parts of the strategy of building a modern country and bringing unity to a divided society. The nation's achievements in this field were of vital importance to the country. As a result of the atmosphere created around the newly established Polish Navy this military formation became a part of building the sense of national pride. The newly founded city of Gdynia, harbors, trading vessels, and other elements of maritime ethos were perceived in a similar manner.

Nowadays even in spite of the advantageous internal and international situation, Poland is wasting the opportunity provided by sea access. This may be the result of the lack of appropriate knowledge about the threats and challenges as well as opportunities connected with sea access.

To summarize, the observed low level of maritime knowledge leads to a negative image of the maritime forces. The Navy in particular is treated as an expensive formation and its use is deemed problematic. This situation in turn renders the effective use of maritime instruments in the pursuit of the country's interests impossible.

CHAPTER 3. POLISH MARITIME FORCES DEVELOPMENT DIRECTIONS

Precisely defined, described, and widely recognized maritime interests and goals of our country should be the basis for the decision about the development of the Polish maritime forces.

3.1. POLAND'S MARITIME INTERESTS

At this time, Poland has the largest access to the sea in all of its millennium long history. This should be used to maximum advantage to facilitate the socio-economic growth and development of a friendly international security environment. By achieving this goal, we will strengthen Poland's international position, particularly in the EU and NATO.

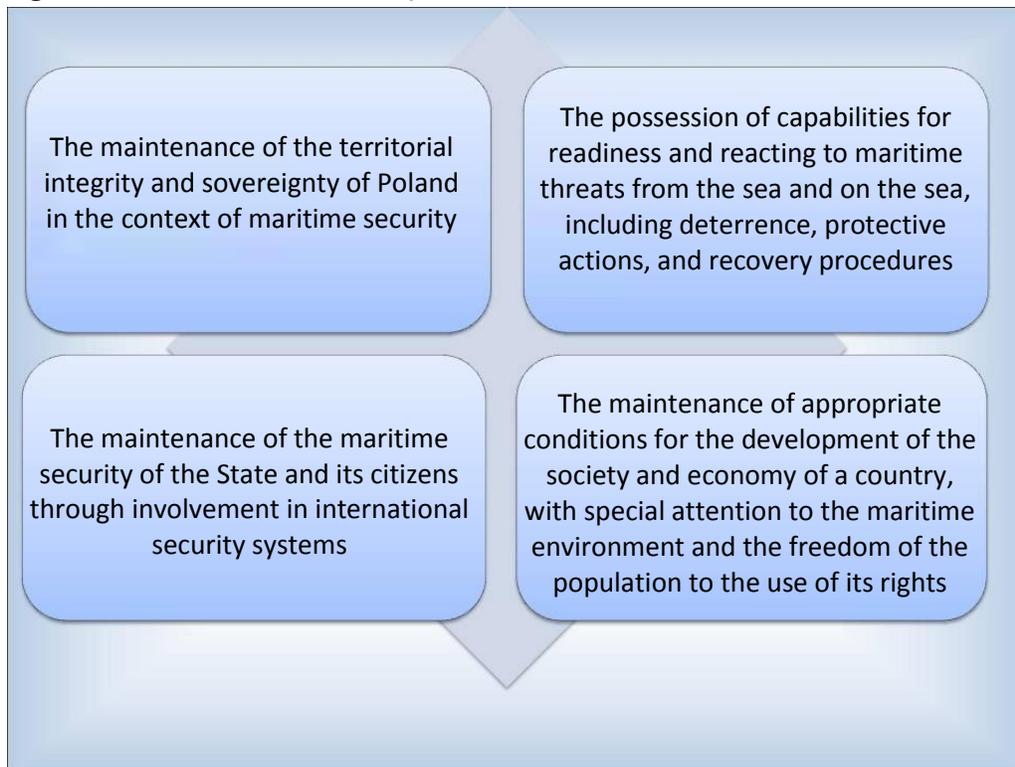
New, previously unavailable opportunities have opened for the Polish maritime forces with the country's inclusion into the NATO structure. Apart from possessing strictly protective capabilities, the maritime forces should be able to facilitate the country's international standing and prestige. Taking this into account the main mission of the Polish maritime forces should revolve around the permanent introduction of Poland into the community of maritime countries as an active participant in the world order. Additionally, thanks to its versatility in the field of international relations, the Polish Navy should create and develop international relations and participate in the maintenance of global security systems. This mission directly influences the level of our country's security.

The sea is the field for intensive political cooperation and creation of social and economic ties. It is the role of the country's maritime security system to defend, protect, and develop it with the use of its own resources and the help of allied and friendly countries. It is the country's and the population's role to support this system, because security issues and development opportunities are strictly connected with securing a place in the modern global maritime world.

Poland shall execute its maritime interests within all three aforementioned contexts, using the opportunities ensured by public international law, in particular by the Law of the Sea. In comparison to the continental (land) environment, the range of these activities is practically unlimited. One of the oldest and most basic parts of the international Law of the Sea is connected with the freedom to sail the seas and oceans, allowing us to extend our reach to the *furthest corners of the world*. This formula, creating a space for an efficient pursuit of the country's maritime interests may lead to international arguments and conflicts on different scales. Execution of Polish maritime interests requires the possession and use of appropriate forces and instruments to protect them. Maritime security shall be ensured in the national, regional, and global context.

National interests are described in the Constitution of the Republic of Poland. They directly lead to national maritime interests, which in turn define our maritime security interests presented in Figure 7.

Figure 7. Polish maritime security interests



Source: own elaboration.

3.2. POLISH MARITIME SECURITY STRATEGIC GOALS

The national interests' structure described above leads to corresponding strategic national, regional, and global goals. There are two types of activities connected with Polish maritime interests:

- the facilitation of aspects positive to national maritime security,
- the neutralization of aspects negative to that security.



The Polish maritime security strategic goals include:

- ensuring the integrity of the maritime borders
- adequate defense, social, and economic potential level in the field of the country's maritime security
- adequate NATO readiness and preparation level to collectively defend its member countries and the European Union's unity of operations in the field of the country's maritime security
- effective coordination of Polish maritime security organizations
- the maintenance of the freedom of navigation in international waters and the resulting sailing and flight rights
- effective use of the Polish coastal location in economic and scientific activities in maritime regions
- maritime areas conflict prevention and resolution through selective and regular participation in international military and non-military operations
- countering illegal migration by sea
- sustainable development of the maritime economy, and environmental protection of the sea and coastline
- restoring and maintaining the maritime awareness of Polish citizens

The Polish maritime forces are especially well equipped to achieve the goals stated above through:

- prevention and counteraction to political and military threats to national security through a continuous development of professional and modern Polish Armed Forces (including the Navy), their modernization and training, the reorganization of their structure and their command systems, and cooperation with the Polish defense industry and the appropriate research facilities;
- cooperation in the creation of a stable international environment both in the region and the world, the development of international cooperation and of bilateral and multilateral relations, with the USA in particular, the development of efficient instruments for achieving goals both in NATO and the EU, and the maintenance of alliance mechanisms;
- development of resilience to national security threats, particularly in the area of the country's activities that are not easily classified into the traditional operational subsystems and governmental departments because of their intradepartmental character.

Appropriate abilities correlate with the national maritime security interests and strategic goals. These abilities fall into three (defined in Chapter I) categories similarly to human maritime activities.

3.3. REQUIRED CAPABILITIES IN THE POLITICAL AND MILITARY CONTEXT

Navies are considered the most versatile type of armed forces thanks to their unique character. Their most important traits are:

- lack of limits in the global scale, connected with the capacity for prolonged periods of stay at sea and the capability to conduct long-lasting operations in any maritime area;
- autonomy and independence from the land supply infrastructure based only on logistic support, which may be provided by specialized warships;
- flexibility, which allows conducting a wide range of military and non-military operations, quick adaptability, which even enables a complete change of mission parameters.

No navy, however, is self-sufficient enough to carry out all types of maritime operations. Additionally, no navy is too small to exclude it from joining maritime operations of international warship groups. Due to the development of maritime precision firing systems (including long range systems) maritime nations of medium size (for example, Poland) gained the ability to conduct missions both as part of international warship groups and independently in order to facilitate national maritime interests even far from home.

While defining the Polish Navy's goals one needs to take into account such factors as maritime potential or political will to actively participate in international maritime operations. This is why the development of the optimal structure and potential models for the Polish Navy is impossible without regard to the definitions of maritime interests, maritime regions key to Polish interests, and the actual and projected threats, challenges, and opportunities.

Poland should strive to create a balanced maritime force, which would be able to act both in the national interest and as an active participant in alliances and coalitions. In this context, Poland needs not only coastal defense capabilities, but also such enabling cooperation in protecting the Allies' sovereignty. In connection to the obligations to NATO that are vital to the protection of the Alliance's Eastern flank, our maritime forces should maintain the potential to join combined forces, and in particular act as part of NATO maritime groups and possess warships with tactical-technical capabilities (standardized) which would facilitate a natural and flexible cooperation whilst operating in groups.

In times of crisis or conflict, they shall constitute an integral element of the national defense system, incl. air defense, in cooperation with other branches of the Armed Forces (regarding network-centric warfare principles). The Polish maritime forces shall be included in the NATO air and missile defense system (IAMD).

The existing and future Navy assets should be able to conduct deterrence, reconnaissance, and firing military missions as well as act during emergency situations, natural disasters, critical infrastructure protection activities, and humanitarian aid operations. The Navy should adapt to modern times and new types of warfare, namely hybrid and asymmetrical wars.

It is essential to develop the Polish maritime forces and the Polish Navy in particular in every area of operational capabilities (command and control, intelligence, fires, force protection and survivability, action support, movement & maneuver, and non-military support).

Maritime operations in the littoral zone¹⁷ (the Baltic environments shall be included) are equally dependent on land and air activity. If provocative military activities by the Russian Federation (which, according to Russia, would be a reaction to alleged NATO offensive operations¹⁸) escalate¹⁹, then the potential high intensity (even short lasting) conflict in the Baltic region will be a threat mainly to:

- maintaining maritime transport routes (SLOCs), which are becoming increasingly important to Poland, the Baltic states, and their Western allies in the face of changes in the security environment, especially in energy security and support access areas;
- elements located on Polish soil, especially critical infrastructure and army elements located within the range of enemy assets in the Kaliningrad oblast, which may be crucial in the first phase of the conflict.

Due to unfavorable geographical and military conditions in the Baltic Region during a potential conflict²⁰, the Russian Federation would try to use its air warfare assets to attack NATO countries as well as Sweden and Finland (A2/AD operations) – without the necessity to use warships or deploy amphibious operations from the sea (non-territorial operations).

From a strategic point of view, the Danish straits and exits from Russian ports located in the north-eastern parts of the Baltic Sea are of key importance during an operation in the Baltic region. Cooperation with NATO forces, or even the Swedish or Finnish militaries, could easily close those ports using the Polish Navy with the additional support of air forces and mobile coastal batteries capable of destroying enemy warships²¹.

The protection of sea lines of communication, providing protection to other maritime forces, critical land infrastructure, and the land forces components require the development not only of area denial assets (as in the case of shoreline protection operations which *de facto* mean refusing landing operations with the use of coastal missile batteries or missile boats) but also assets capable of local sea control. Local sea control is not only about acting against enemy surface assets, but more importantly, the control of airspace, and counteracting underwater threats.

¹⁷ Littoral zone means waters close to the shore zone and bottom of waterbodies up to 200m of depth. Source: *Słownik języka polskiego PWN*, <http://sjp.pwn.pl/sjp/litoral;2566191.html> (accessed: January 23, 2017).

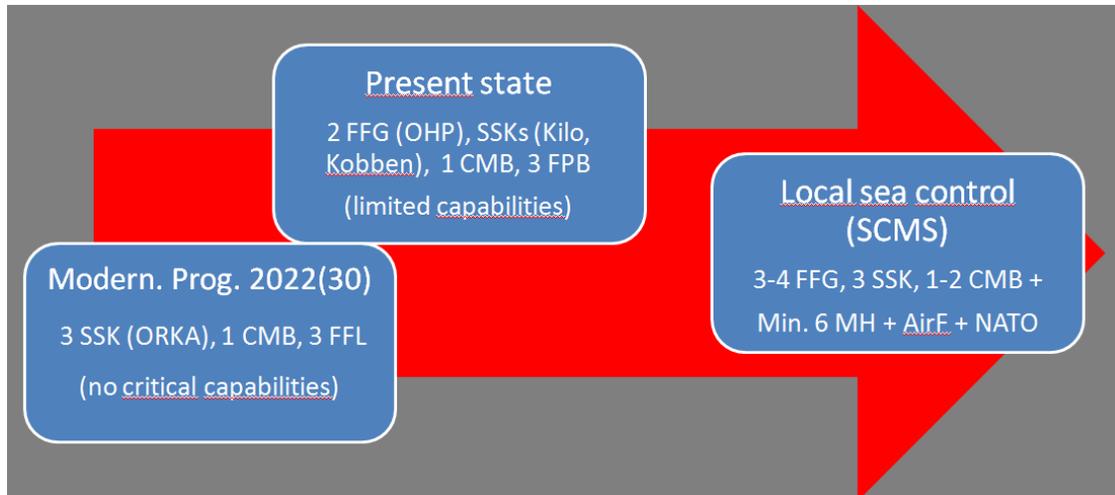
¹⁸ Par. 15 of the *Russian National Security Strategy*, published December 31, 2015, <http://www.ieee.es/Galerias/fichero/OtrasPublicaciones/Internacional/2016/Russian-National-Security-Strategy-31Dec2015.pdf>, <http://tiny.pl/gd4ns> (accessed: January 17, 2017).

¹⁹ *Military Doctrine of the Russian Federation (Doktryna wojenna Federacji Rosyjskiej* – beta translation), *Kwartalnik „Bezpieczeństwo Narodowe”* nr 35, III/2015, p. 179–206.

²⁰ NATO countries with the addition of cooperating forces from Sweden and Finland control most of the Baltic shores and waters. These are the dominant forces in the Baltic sphere of operations. It is of highest significance that NATO countries control the Danish straits that enable access to additional support, which gives the Alliance operational capabilities. At the same time, it prevents Russia from moving additional forces to the Baltic Sea. Another factor that hinders Russian maritime offensive operations is high civilian traffic on these waters (commercial and fishing).

²¹ J. Bartosiak, T. Szatkowski, *Geografia ...*, *op. cit.*, p. 30.

Figure. 8. Enemy area denial capability neutralization



The threat level is marked in red. The present modernization program will render the naval force unable to reduce the potential threat posed by Russia, the current forces of the Polish Navy have significantly limited capabilities in that domain. Only local sea control will enable the neutralization of such threats. Source: own elaboration. Abbreviations: SSK – diesel-electric submarine, CMB – Coastal Missile Battery, FFL – corvette, FFG – guided-missile frigate, OHP – Oliver Hazard Perry class frigate, FPB – fast patrol boat, MH – minehunter, AirF – Air Force components, NATO – here: Allied support. Source: own elaboration.

It is necessary to develop capabilities able to suppress Russian A2/AD assets by obtaining local sea control in four dimensions: air – sea surface – underwater – cyberspace.

We need to assume that there is a probability of a high intensity conflict in the Baltic region and this is why we need to develop maritime platforms, which would best complement the remaining Polish Navy assets (especially the Coastal Missile Battery, CMB) and components of the Air Force. After taking into consideration the type and growing scale of the threat from the Russian side and the present state of the Polish Navy forces and assets, we need to conclude that the Air Force and the Polish Navy will not be able to provide operational freedom to maritime and land platforms (CMB).

This situation cannot be amended by the present modernization program for the Polish Navy that includes the acquisition of *Miecznik* and *Czapla* class warships, which only mimic the required capabilities – they are to be equipped only with a self-defense (short range) system or none at all. At present, the only Polish Navy units that have any anti-aircraft potential are the Olivier Hazard Perry (OHP) frigates equipped with SM-1 (Standard Missile) systems²² with a 40 km range (see Table 2 which presents the comparison of two warship classes: corvettes and frigates).

The OHP frigates' system upgrade should become a priority in the present national security environment. The urgent need to introduce the next generation of multi-purpose frigates with advanced air defense capabilities (as a part of acquiring the so-called bridging capabilities) will result in bridging the existing gap in our abilities and will efficiently facilitate the use of other Polish Navy units in cooperation with the Air Force. Air defense frigates are able to create a view of the air space status for a large area (a couple of hundred km, on land as well), counteract against targets

²² SM-1 – medium range anti-air missile.

within 100 km range (before launching any anti-ship missiles (ASM)) and guide friendly air units towards the enemy.

Table 2. Comparison of warship types' capabilities

| Warship type capabilities and characteristics | CORVETTE (1000-2500t) | FRIGATE (4500-6500t) |
|---|--------------------------|-------------------------|
| Autonomy (being independent from a base, replenishment at sea capabilities) | High | Low |
| Ability to use weapons during unfavorable sea conditions | Low | High |
| Ability for efficient sensor use during unfavorable sea conditions | Low | Low |
| Surface target engagement | Low | Low |
| Underwater target engagement | High | Low |
| Area air defense (other forces' components protection) | Low | Low |
| Air defense command over large areas and groups | Low | Low |
| Defense against guided anti-ship missiles (ASM) | Low | Low |
| Ballistic missiles detection and tracking | Low | Low |
| Anti-ballistic missile defense operations | Low | High |
| Cruise missile capabilities (sea-to-land power projection) | Low | Low |
| Organic helicopter and shipboard helicopter operations | Low | Low |
| Interoperability with SNMG | Low | Low |
| Ability to participate in NATO BMD initiatives (e.g. sensors) | Low | Low |

Capability level marking:

| |
|--------------|
| high |
| satisfactory |
| low |

Source: own elaboration.

It needs to be said that frigates with air defense (incl. anti-aircraft) capabilities when working with reconnaissance and strike air units should focus on performing strikes at: over the horizon targeting systems (OTHT), command and control units, and enemy effectors. Another argument for acquiring frigates and not corvettes or small missile boats is the fact that they are able to defend against coordinated missile strikes from a couple of directions and thus provide area air defense to other ships, CMBs, and land forces' components. The acquisition of local sea control should include: engaging surface units by CMBs (which is characterized by significant firepower) while anti-aircraft frigates provide area air defense, at the same time providing anti-submarine capabilities, anti-air and anti-ship defense on their own and in cooperation with other units and maintaining freedom of movement and maneuver for submarines and shore-based anti-submarine helicopters.

It needs to be stressed that the Polish Navy's ability to act during all four seasons of the year requires taking into account the hydro-meteorological conditions. This also pertains to the Baltic Sea, which in popular opinion is a small sea with a low sailing difficulty level. In reality, the

domination of winds from the west and a large number of storms make the Baltic Sea a stormy water basin with short but steep waves. A typical wave height is 5 m. During strong storms, the waves are disorderly and rapid, they approach from different angles and bounce off each other, gaining heights of up to 10 m. The distance between wave crests is small, approximately 50 m. This is why the Baltic Sea is in reality a demanding environment²³, which requires units with high seakeeping capabilities (see: Terms and Definitions) able to use their weapon systems (sensor and effectors) in unfavorable hydro-meteorological conditions. It is a mistake, then, to propose the acquisition of smaller vessels by the Polish Navy (corvettes²⁴ and smaller units), which in the face of military requirements and weather conditions described above will not be able to fully realize their military potential. It is entirely false that a frigate is easier to eliminate because of its size. It is the other way round: smaller ships without self-defense capabilities can be easily eliminated during conflict. Another key issue that needs to be taken into account when considering the process of developing operational capabilities is the necessity to simplify the existing rules and procedures for acquiring and maintaining equipment and weaponry (warships), which due to their complicated character and lack of clear responsibility for tasks in many cases lead to the paralysis of those capabilities.



Poland's maritime forces development planning principles

²³ J. Bartosiak, T. Szatkowski, *op.cit.*, p. 22.

²⁴ The table presented above confirms that even a couple of corvettes cannot replace one frigate.

Taking into account the analyses, in particular with regard to the necessity to acquire local sea control, and the experiences of other NATO nations during the modernization of their maritime forces, we need to introduce these primary principles during the planning of the Navy's development:

- **Interoperability** – maritime forces work in an international structure. That is why present and future units should be able to fully cooperate with NATO and EU forces. This principle should be taken into account during the modernization of present and future units. The application of NATO standards in ship construction procedures shall be one of the elements of this process (a departure from Polish standards that often derived from the communist times is necessary, because those standards did not take modern trends in the shipbuilding industry into account).
- **Joint operations** – maritime forces, especially in times of conflict, perform joint operations. When planning the development of the Navy we need to take into account functioning system tasks as well as cooperation with other branches of the Armed Forces, Polish Special Forces, and the Air Force in particular, and the capabilities that other branches of the Armed Forces possess in order to avoid the duplication of those capabilities.
- **Network-centric structure** – warship development means not only the increase in their numbers, but also their rational use by commands and headquarters through the provision of actual and reliable information. The creation of a network between all of the Navy's components, e.g. the decision centers, sensors, and effectors is one of the main ways of increasing its efficiency. In spite of large asset dislocation, this should provide spatial and time synchronization for all users of the network.
- **Subsidiarity** – our maritime forces should acquire those capabilities that are necessary for their primary missions first. When under a limited budget some capabilities may be acquired with the help of allied forces or through the use of civilian units. This is especially important in the case of rarely used abilities. Securing those capabilities as part of an external structure should be based on permanent or framework agreements.
- **Maritime forces balancing** – a developed maritime force should be able to effectively carry out all operations resulting from the country's policy in key maritime areas connected with the national interests and the security of the State.
- **Readiness** – maintaining a state of readiness requires the possession of an appropriate number of units with the same, minimal capabilities to carry out identical tasks. This enables capability recovery (readiness) while the same task is carried out by a different unit. A minimum of 3 units should be able to perform the same tasks (this number may be reduced to 2 in justified cases).
- **Capability priorities** – the development of forces should be based on capability, not numbers principles. Capability components include: doctrine, organization, training, material, leadership and education, personnel, and facilities (DOTMLPF).
- **Versatility** – in the first instance, the maritime forces should acquire multi-purpose units that would carry out the widest range of missions (e.g. frigates) – these units should constitute the basic class of Polish Navy forces. Specialized units should be acquired only in the cases

where versatility is impossible (e.g. submarines and mine countermeasures ships) or financially not justifiable.

- **Combat capability priority** – the development of the Navy should be based on the principle of combat capabilities (firepower), not the principle of operational support. Units should be able to act both during conflicts, peace, and emergency situations. Prioritizing smaller, specialized units with limited combat and maritime capabilities (which should be replaced with multi-purpose units) is detrimental to the security system and financially unjustifiable. While operating with a limited budget the development of forces should be based on this priority chain: combat multi-purpose units first (area defense) – specialized combat units – support and supply units.
- **Cost effectiveness** – acquired units should be characterized by optimal performance while maintaining cost effectiveness through:
 - use of proven, so-called medium, low risk technology;
 - maximization of unit multi-purpose character;
 - economical use (cost of operation and support (maintenance) within the target operation period of military equipment should be taken into account as much as the cost of acquisition of new units),
 - line production (in case of new units) connected with active purchaser's representative control over the production process based on given project management methodologies. Because of the present technical state of the Navy and the financial situation, some parts of the fleet may be maintained through defined forms of use (including lease) in order to retain particular capabilities.
- **Capability identicalness** – in connection with potential large-scale threats in the Baltic Sea and Poland's international obligations, the Navy should maintain the identicalness (sameness) of its capabilities in order to provide security both in the Baltic regions and in other maritime areas.
- **Modernization potential** – the acquired units' architecture should be as open (modular) as possible, i.e. they should be characterized by sufficient:
 - space,
 - displacement,
 - power,
 - device and weapon system cooling.

3.4. REQUIRED CAPABILITIES IN THE ECONOMIC CONTEXT

Maritime forces belonging to countries with high maritime awareness are vital components of their national maritime economy.

Globalization and the change in international relation patterns in the last decades have increased the economic value of the Baltic Sea to Poland's interests. It has connected the economic growth and security of Poland with the quality and scale of our assimilation with global sea lines of communication and regional European integration communities.

Poland will not become a sufficiently strong country without integration with the global resource-energy, technological, and industrial-commercial structure. The key centers of that structure are connected via a system of global maritime trade routes. From the economic point of view, Poland has no other alternative if it wants to develop the exchange of goods equally with all continents. This will lead to appropriate changes in Poland's maritime security policies and will require the development of new maritime capabilities to protect the national interests and extension of the sea ports' infrastructure.

It is estimated that the national economy should achieve 60% level of exports of if our country is to efficiently integrate itself with the global economic system and maintain its long-term development²⁵.

In the case of raw material transport, Poland should strive to become a regional energy hub. The planned expansion of loading capabilities of the LNG terminal in Świnoujście by at least 7.5 billion m³ annually, which constitutes nearly 50% of its present capabilities, presents new directions in the development of the Polish raw material market.

Further energy resources shipping diversification will be possible if the planned expansion of underwater pipelines for natural gas from Norway and Denmark are completed and through the development of oil transit infrastructure, mainly by maritime means. The oil port in Gdańsk may become a key component of this infrastructure, facilitating energy security for Poland and the Central European region. Polish sea mining is also a part of this issue. In a long-term perspective, it is safe to say that its importance will grow steadily.

Our country's energy companies have already planned the construction of maritime wind farms whose energy output is comparable to that of large land conventional power plants. These endeavors are connected with the maritime aspect of Polish energy security and should be protected by the Polish maritime forces at every stage of development.

The shipbuilding industry needs a rational and pragmatic revitalization of some of its components. It is estimated that after the end of that process between 2016 and 2026, the value of its contracts should increase to 25 billion PLN. According to the assumptions stated in the *Act on Shipbuilding and Complementary Industries Stimulation*, this economy sector will increase its work force by up to 5,000 to 7,000, that is by 1/3 of its current staff. It is estimated that each new job in the shipbuilding industry generates 7 additional jobs in other sectors of the economy²⁶. One needs

²⁵ Source: Ministry of Maritime Economy and Inland Navigation.

²⁶ The information on the projected development of the shipbuilding industry was provided by the Ministry of Maritime Economy and Inland Navigation.

to emphasize that the shipbuilding industry is not focused solely on the construction of seaborne units, it produces elements of maritime infrastructure as well, i.e. wind farms or drill platform components.

The construction and maintenance of Navy units is a vital part of the shipbuilding industry. This should involve the largest possible number of Polish companies if these companies are able to provide warships with modern standards and quality. The development of production and maintenance capabilities in the context of the Polish Navy is a key element of the country's maritime security.

Poland should regain full navigational rights under the *Convention on the Law of the Sea* for the use of the Strait of Baltiysk and the Russian part of the Vistula Lagoon. The creation of a ship canal through the Vistula Spit is a viable alternative. This project, however, requires a pragmatic comparison of the costs of the project with the projected gains.

The fishing industry is a vital component of the Polish maritime economy. This sector should be rationally revitalized and developed. Goods generated by this industry are of strategic importance to the country's food security. The Polish Navy should protect and secure the fishing industry's interests, particularly in the Polish maritime areas.

The cleaning of the Baltic Sea from dangerous materials is an important project for the Polish maritime industry. It includes the removal of chemical weapons, which were purposefully dumped or left after past wars. Such operations are a routine domain of the Polish maritime forces.



3.5. REQUIRED CAPABILITIES IN THE SOCIO-CULTURAL CONTEXT

This quote from the works of Eugeniusz Kwiatkowski (Deputy Prime Minister of Poland during the Interwar period) describes the sense and aim of the required transformation in the socio-cultural aspect through *a clear, developing, and consistent attitude towards maritime matters*²⁷:

*The sea knows no boundaries and divisions, it makes teams work together, and individuals act. It limits overambitious individualism, but gives the feeling of freedom. It knows nothing of domination, but destroys anarchy. The land, on the other hand, makes people care about their interests, closes them in their limits, divides one human being from another. The land represents static forms and the sea is a dynamic symbol of movement. On the land we want to possess, the sea makes us want to use. On the land, force is the ultimate argument, on the sea – it is mastery of skill*²⁸.

Our country should use the historical events of joining NATO and the EU, communities made up of predominantly maritime nations, as a spark for an accelerated development. This would ensure a stable, strong position in international affairs. To achieve this goal we need to revitalize and develop maritime awareness and culture in the Polish society, its political, military, and opinion-forming communities. The facilitation of the positive image of all parts of the Polish maritime forces should be coordinated.

²⁷ E. Kwiatkowski, *Building a New Poland by the Baltic*, PIW, Warszawa 1945, p. 9.

²⁸ E. Kwiatkowski, *Wczoraj, dziś i jutro Polski na morzu*, Warszawa 1946.

CHAPTER 4. RECOMMENDATIONS FOR THE DEVELOPMENT OF THE MARITIME FORCES OF POLAND

Defining the maritime environment, threats, challenges, risks, and opportunities within the maritime security sector and subsequently analyzing the status of the Polish maritime forces, designing required capabilities based on experiences arising out of our fleet engagement in international operations shall be the basis to recommend directions of development of the Polish maritime forces, in particular the Polish Navy.

4.1. RECOMMENDATIONS FOR THE DEVELOPMENT OF THE POLISH NAVY AND THE MARITIME SPECIAL FORCES

The analysis of the theoretical basics for the use of war fleets in the 21st century and complex changes generated by the maritime security environment for Poland is the basis for recommending the optimal model of the Polish Navy. This model can be extracted from the classifications given below, which are based on different criteria.

The first applied classification system, which deals with the requirements of the modern maritime security environment, describes three types of fleets:

- *pre-modern* – the navy fights for survival, its defensive capabilities are limited (the present model);
- *modern* – the use of conventional (traditional) methods of adaptation of the Navy to modern challenges;
- *post-modern* – the partial or complete transformation of the Navy into a new quality formation, based on acquisition of combat capabilities inscribed in joint and allied systems, whilst reducing the number of units lacking key capabilities (so-called *Smart Navy*²⁹ – desirable situation)

These criteria, however, are not all about choosing the most advanced equipment and weaponry nor using the most advanced technological solutions (even though they are very important). They pertain to the anticipated functions and the concept of the Navy's use. This is why the war fleets that belong to maritime powers, which cannot completely resign from the use of traditional concepts and functions, are classified as modern. Only some countries possess war fleets classified as post-modern and they include e.g. Australia, Canada, Denmark, the Netherlands, and Norway.

²⁹ Smart Navy refers to the prevailing NATO Smart Defense Concept, whose main objective is to create prioritized national defense capabilities in collaboration and with the scheduled consideration of the capabilities contributed by the Allies.

A post-modern fleet's structure and composition is adapted to the presently used strategy, based on an analysis of current and projected threats and risks of the maritime security environment. This analysis takes into account the actual and projected national interests in key areas as well as primary capabilities and principles for multi-purpose, joint, and interoperable operations in relation to cost efficiency.

The second classification model describes war fleets in regard to their ability to carry out primary missions. It places the Polish Navy in the medium war fleet category (Table 3).

Table 3. Maritime forces categories and missions

| Maritime forces category | Strategic deterrence and enforcement | Force projection | Sea control | Sea denial (A2/AD) | Naval diplomacy | Law enforcement | Humanitarian aid |
|--------------------------|--------------------------------------|-------------------------------|-----------------|--------------------|-----------------|-----------------|--------------------|
| LARGE | yes | yes | yes | yes | yes | yes | yes |
| MEDIUM | no | joint and alliance operations | local, alliance | yes | yes | yes | yes |
| SMALL COASTAL | no | no | no | territorial waters | no | yes | territorial waters |

Source: own elaboration.

In order to fully develop the concept of the target model for the Polish Navy a third classification system has been used. This system describes war fleets in a more precise manner³⁰.

By taking into account all of the three classification systems and the entirety of Poland's security environment, including the Polish maritime security environment and arising threats, in particular posed by the Russian Federation, and the associated interests and strategic goals, level of national ambition, as well as the possessed instruments and resources, it is appropriate to conclude that the Polish Navy should aspire to become a category 3 navy, a medium navy able to project force on a global scale which demonstrates in a stable and consistent manner its determination to carry out missions far from its country's territorial waters in cooperation with category type 1 and 2 navies. Additionally the Polish navy should become a *post-modern* navy, a formation fit to face modern and future challenges, strong with a modern military naval doctrine, which is balanced to perform missions in areas key to Polish interests. The achievement of this task is possible. It will, however, require a change in mentality in the Polish Navy, its environment, and among the decision makers (both civilian and military).

Up to this point, the Polish Navy has been regarded as a support armed force with the goal of territory protection in mind (Table 4 category 6 or 7). It needs to be emphasized that the proposed changes to the model of the Polish Navy will not lead to a radical increase of its budget, but to its rational spending.

³⁰ Eric Grove, *The Future of Sea Power*, US Naval Institute Press, 1990, p. 236-240.

Table 4. Categories of war fleets of the world

Category 1: Major global force projection Navy (complete)

This type of navy is able to carry out all types of maritime operations on a global scale. It possesses full aircraft supply (carriers) and landing capabilities, sea control forces and access to nuclear weapons. This type of navy can simultaneously conduct large-scale operations. One example of such a fleet is the United States Navy.

Category 2: Major global force projection Navy (partial)

This type of navy is able to carry out most or all maritime operations (similarly to a category 1 navy), but it has to limit itself to one large-scale "out of area" operation. Fleets of Great Britain, France, Italy, and Spain are examples of this type.

Category 3: Medium global force projection Navy

This type of navy possesses limited, but reliable force projection capabilities. It demonstrates in a stable and consistent manner its determination to carry out missions far from its home waters in cooperation with other force projection navies. This category includes e.g.: Canada, the Netherlands, Australia, Denmark, and Norway.

Category 4: Medium regional force projection Navy

This type of navy is able to project force only in the adjoining maritime region. Its military potential enables its use outside of the adjoining maritime basin but those kinds of operations are not performed for various reasons on a regular basis.

Category 5: Adjacent force projection navies

This navy is able to project force in the coastal waters but is not able to perform operations on full sea.

Category 6: Offshore territorial defense navies

This navy is able to sufficiently perform protection operations (keeping order) up to 200 miles from the coast.

Category 7: Inshore territorial defense navies

This navy is able to sufficiently perform protection operations in the coastal region. Its focuses more on coastal operations than on police operations (public order protection). This type of navy consists of missile ships, coastal air force, and a limited submarine force.

Category 8: Constabulary navies

This type of navy is not suitable for combat operations. Its only goal is the protection of public order.

Category 9: Token navies

A navy with minimum capabilities. Its organizational structure is small. It consists of a few coastal units. The smallest and weakest countries in the world can only aspire to possessing a small, police navy.

Source: own elaboration based on Leadmark. *The Navy's Strategy for 2020 (Canada)*, Directorate of Maritime Strategy, 2001, p. 43-45.

Only by reaching Category-3 fleet status, requiring, among others, obtaining multi-purpose frigates capable of providing area air defense, changing the structure of naval forces and activation of fleet in allied operations, will Poland be able to neutralize potential threats generated, among others, by the Russian Federation and to manifest its alliance solidarity. In this way, the Polish Navy will gain the appropriate capabilities, full interoperability, and will bring a real contribution to the defense system of the Republic of Poland, without such contribution the efforts of other branches of the Armed Forces cannot be achieved or will require investment many times higher than those for the Polish Navy.

In order to prove that these recommendations for the development of the Polish Navy are possible we compared individual category 3 navies, as can be seen in Table 5 below. It shall be noted that in comparison with the countries listed in the table below Poland has a least developed coastline infrastructure as well as doesn't have a direct access to the high seas.

Table 5. Comparison of the potential of Poland and given countries with Category 3 war fleets

| COUNTRY | MILITARY STRENGTH GFP 2016 | GDP (IN \$ BILLION) (rank) | POPULATION (MILLION) | NAVY PERSONNEL |
|-----------------|-----------------------------------|-----------------------------------|-----------------------------|-----------------------|
| Canada | 22 | 1.631 (16) | 35.1 | 8,300 |
| Australia | 23 | 1.138 (19) | 22.7 | 13,500 |
| Norway | 38 | 0.356 (47) | 5.2 | 3,900 |
| The Netherlands | 39 | 0.815 (27) | 16.9 | 7,800 |
| Denmark | 50 | 0.258 (57) | 5.5 | 3,600 |
| Poland | 18 | 1.005 (24) | 38.5 | 7,000 |

Source: Military strength according to Global Firepower 2016. GDP (PPP) 2016 (projected) according to the International Monetary Fund.

The Polish *"Fighting the Threats at Sea" Operational Program 2013-2022/30* was not based on any specific vision for the Polish Navy nor the necessity for securing any real instruments for Poland. It recommends a simple swap of the old units (from the times of the Warsaw Pact) for new units of a corresponding class. This attitude leads *de facto* to the preservation of the *pre-modern* war fleet concept, which only partially performs tasks within the framework of maritime security and national defense. In addition, this approach does not fully take into account any of the NATO standards. This type of fleet is unable to secure a full spectrum of the national interests and is useful to a little extent from the point of view of the Allies. Based on the dated model it recommends acquiring large amounts of specialized support and combat units with light corvette class units (this is an extension of the old doctrine on the use of fast attack surface forces) acting as the main naval

force. It means these units are practically equipped with very limited maritime capabilities from the point of view of the present and in particular of future Polish security.

Due to the rapidly growing security challenges and significant delay in implementation of the operational program and the need for its appropriate adjustments, the Oliver Hazard Perry frigates shall be used to their full extent for activities in NATO and the EU.

The attempts to create national deterrent forces for the Baltic Sea that would consist of classically powered (diesel-electric) submarines should be described as justified. Planning units equipped with cruise missiles which could be alternatively deployed using land-based platforms requires an additional consideration. The main argument in favor of this approach is the possibility of technological risks associated with the construction of submarines with such capabilities, in the Polish defense industry. It needs to be emphasized that the key deterrent factor for any potential, direct, and serious threats is an adequate, inevitable NATO reaction. This reaction needs to be secured through constant diplomatic activities and active participation of the Polish Navy in NATO's operations.

Our membership in NATO and the EU, our strategic partnerships, mainly with the USA, and our own military potential are the pillars of Poland's security. The character of the maritime environment and previous experiences with this environment confirm that the goals in respect to a country's maritime security may be achieved mainly through the development of international cooperation. The evolution of relations between countries, international and non-governmental organizations, and the increasing range of threats and challenges connected with the environment of maritime security transform the maritime forces into a vital instrument used for the pursuit of national and allied interests.

The *NATO Maritime Security Strategy* explicitly states that the maritime forces of one nation cannot achieve security goals individually, in isolation. Therefore we need to strive for the Polish maritime forces to achieve the highest possible level of interoperability with the forces of other NATO and EU countries (while maintaining combat readiness). As the stipulations presented above clearly suggest, no Baltic country, including Poland, is able to successfully, strategically deter a potential enemy in the form of a regional power. Taking this into account, we need to include these recommendations for the participation of the Polish Navy in the NATO and EU deterrence system:

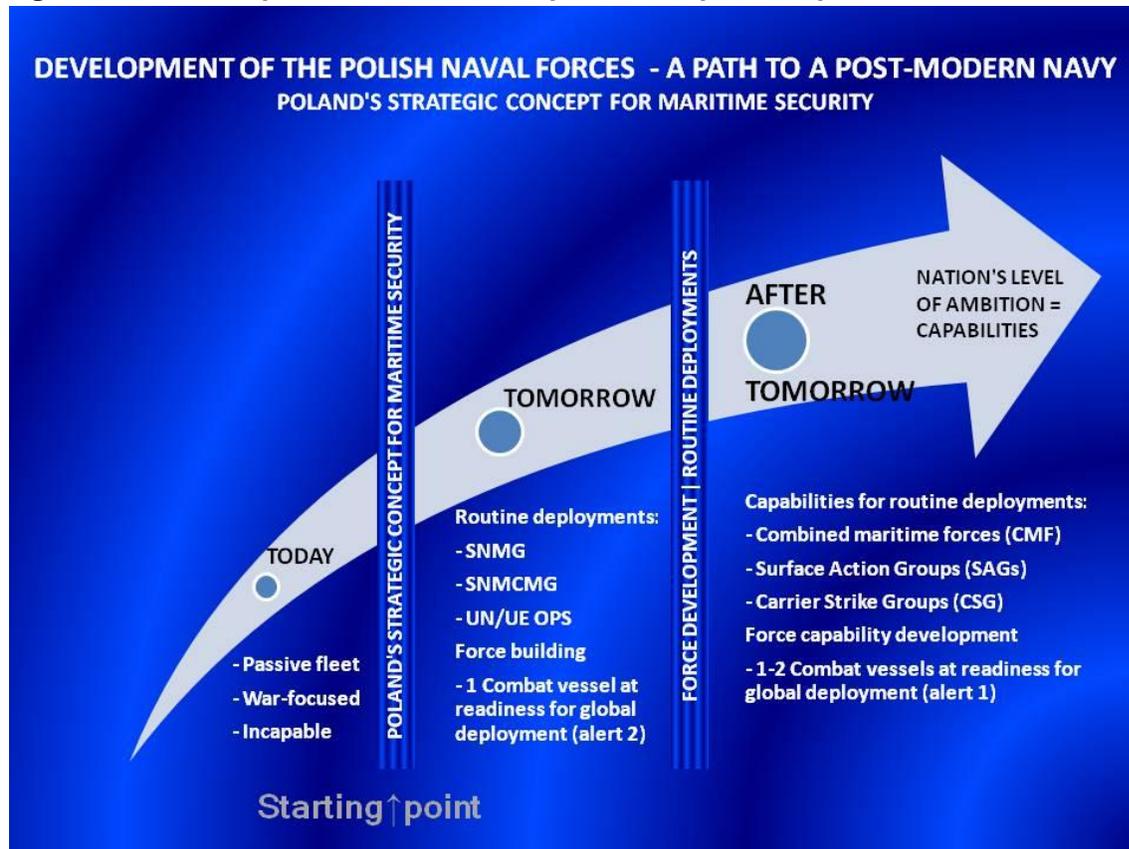
- **acquiring the means to achieve local sea control** (in four categories: air, water, underwater, and cyberspace) with the use of allied structures. The achievement of this goal will be possible only through: the development of appropriate forces that logically fit the capabilities of the allied structure and cooperation with other countries of the region;
- **the development of Poland's credibility as an ally** through regular involvement in the activities of standing maritime groups and alliance operations, which would strengthen relations with other NATO countries;

- **ensuring the simultaneous, extended³¹ and unpredictable for an adversary, reaction of the Alliance** (in the event of a crisis or conflict which threatens Poland) in other areas of vital importance to a potential adversary (beyond the Baltic Sea), requiring actions of Polish diplomacy and military authorities for the constant and regular updating of the applicable NATO contingency plans. Precisely for this reason, the constant presence of the Polish Navy warships in operations conducted throughout the Euro-Atlantic area has a direct impact on national security, strengthening the resolve of allied response and thereby developing key operational capabilities required for national defense operations.

These goals can be achieved through: precise, responsible, but also ambitious, development planning for the Polish Navy with the aim of facilitating Polish maritime security and the pursuit of its maritime interests; the appropriate reorganization and creation of new doctrines. These actions should be taken while systematically increasing Polish involvement in NATO's maritime operations, as presented in Figure 9.

³¹ According to Art. 5 of the North Atlantic Treaty an armed attack against one or more of the Allies shall be considered an attack against them. For this reason, it is not the adversary, but NATO countries – using this clause – should decide about means (non-military or military) and area (any area of vital importance for the adversary) to conduct defensive operations, thereby extending the response of the Alliance, for example in the case of an emerging threat of conflict in the Baltic region NATO immediately responds in the Black Sea and the Mediterranean regions.

Figure 9. The development of Polish warship forces – a path to a post-modern fleet



Alert levels are classified. Abbreviations: SNMG (Standing NATO Maritime Group), NATO, SNMCMG (Standing NATO Mine Countermeasures Group), UN/EU OPS (United Nations/European Union operations).

Source: own elaboration.

It is necessary to implement promptly a modified development and modernization program which is compliant with recommendations arising out of this Strategic Concept. For the Polish Navy it means multi-purpose frigates as the main combatant force – it is a choice of naval fleet suitable to Poland's position and corresponding to the challenges of national maritime security, the necessity to facilitate its maritime interests, and the nation's level of ambition in international affairs. In accordance with the trends in the development of NATO war fleets, we should include Polish Navy warships in the country's air defense system. This can only be achieved with the use of multi-purpose frigates and higher class warships. This will enhance the Polish air defense capabilities and will become an important part of the Alliance security system. It is also necessary to maintain one warship in full combat readiness and take into account the possibility of sending it to any maritime region.

The development of the Polish Navy includes the modernization or acquisition of these categories of units:

- multi-purpose warships (frigate class), characterized by displacement and other parameters that would enable them to:
 - provide anti-aircraft defense with applicable effector range,

- provide reliable information in regard to long range air, water, and land situations (including targeting),
- provide early warning information to the national anti-aircraft defense system,
- provide information on the underwater situation,
- project force from sea to land through the use of tactical land-attack missiles (LAM),
- perform anti-submarine warfare,
- perform joint operations (particularly with special forces groups and reconnaissance/tactical aircraft),
- perform as part of maritime task forces, particularly as part of NATO response forces in prospective areas,
- secure the command of a warship group by a tactical level commander,
- support a helicopter;
- command and joint (special) task force support warships for maritime, air, and land operations with the capability to transport and support mobility to additional forces and resources, lay mines, and function as a field hospital. These warships should possess special tactical and technical capabilities adapted to asymmetrical and hybrid warfare;
- submarines able to:
 - perform naval warfare in relation to seaborne units,
 - perform anti-submarine warfare,
 - perform reconnaissance and control missions,
 - secure special forces operations,
 - with an option to extend the capabilities to project power by equipping it with tactical land-attack missiles (LAM),
 - perform specialized tasks in relation to mine warfare;
- reconnaissance and patrol aircraft able to provide complex maritime reconnaissance: signals (SIGINT), imagery (IMING) and radar (RADINT), perform anti-submarine warfare and participate in SAR missions;
- anti-submarine warfare military helicopters able to work with the Special Forces and perform SAR missions;
- anti-mine warfare – minehunters and mine countermeasures vessels (MCM) ready for the whole range of anti-mine operations – search, detection, classification, identification and neutralization of all types of naval mines, dangerous objects, improvised explosives. These warships should maintain full and versatile readiness for acting as part of maritime task forces as part of national and allied forces, particularly as a part of Standing NATO Maritime Groups and NATO Response Forces in prospective areas of operation;
- unmanned systems, supporting air, naval, and underwater operations, including short and medium range unmanned aerial vehicles as part of the reconnaissance force of the Naval Air Brigade (IMING).

The verification of the assumptions of the existing development and modernization program for the Polish maritime forces should take into account the 1:3 operational use coefficient (ability to standing performance of given tasks by one of three vessels of a given class). This coefficient takes into account exploitation and operational factors.

A decisive role shall be assigned to a regular and rotating³² involvement of Polish warships in NATO operations, incl. SNMG and SNMCMG, in countering piracy, terrorism, illegal migration, and proliferation of WMD operations, and selective participation in other international activities at sea like peacekeeping operations and maintenance of good order (e.g. Sea Guardian, Sophia, etc.). This should result in securing an adequate representation in international decision making and command structures of the Alliance, at maritime command level as well. This would ensure Poland's influence on joint operations, lead to prestige in connection with our maritime involvement and strengthen our standing in the Alliance. This way the Polish Navy will acquire a cadre with practical skills and useful experiences.

Taking part in international operations is the necessary requirement to acquire local sea control in the Baltic region (the development of knowledge and interoperability in order to protect the national interests) and does not require any additional capabilities or warships.

To gain maximum effect from the participation of the Polish Navy in international operations requires close and constant cooperation between the Ministry of National Defense and the Ministry of Foreign Affairs, both during the planning and practical phase. The forward presence and strategic importance of Polish Navy warships deployed in any given region should be used to fulfill a full range of Polish foreign policy objectives.



Polish frigate ORP Gen. T. Kościuszko departed from the Naval Base in Gdynia. Heading for the Mediterranean Sea.
Photo: BBN

³² The conclusions from the previous participation of Polish Navy contingents in standing NATO groups allows for recommendations that the average annual commitment of ships for each of the groups should be a minimum of 6 months.

4.2. RECOMMENDATIONS FOR THE DEVELOPMENT OF NON-MILITARY MARITIME CAPABILITIES

In order to successfully achieve the Polish Navy's non-military goals, proper coordination is required between its components, which fall under the jurisdiction of various ministries and institutions. This also pertains to the development and proper verification of detailed procedures that regulate operations in various situations, including the use of weaponry.

In this context, fundamental actions by the government and all State entities with maritime security competencies should be focused on the transformation of Poland from a coastal into a maritime country.

These basic actions to achieve the aforementioned objective are recommended:

- equipping main Polish harbors to receive "BALTIMAX" type ships (15.4 m draft) and to remove the development limitations of these harbors;
- connecting the harbors with land and river transport routes;
- activation of the national shipbuilding industry.

Economic tasks for governmental entities include:

- reconstruction of the Polish Navy with the use of the Polish shipbuilding industry and Polish technical skills;
- gaining a high level of raw material delivery sources diversification;
- sustainable use of Polish maritime zones for the purpose of all economic sectors, incl. maritime wind energy production;
- promotion of the Polish maritime industry.

Tasks for coordination at the governmental entities level shall include:

- intradepartmental cooperation for the regulation of maritime issues;
- settlement of the disputed maritime territory issues;
- creation of a positive environment for the development of a Polish commercial fleet;
- creation of a positive environment for non-public (private) maritime security sector dedicated for ship and infrastructure protection (incl. outside the Polish territory);
- increase of maritime knowledge and awareness in society and the promoting of maritime education.

Recommendations for the Maritime Unit of the Border Guard

It is necessary to facilitate the Border Guard's abilities to monitor and patrol the maritime areas that fall under Polish jurisdiction. In order to ensure that the Border Guard is able to fulfill its obligations of guarding the country's borders, protecting its economic interests, securing the maritime areas, and maintaining control over abiding of the law by ships we recommend the following:

- to equip the Border Guard with two multi-purpose maritime seagoing units;
- to provide financing for the maintenance and development of the Automated Radar Control System, which monitors Polish maritime areas;
- to provide appropriate harbor infrastructure for the Maritime Border Control Department in Świnoujście and Stara Pasłęka;
- to equip the Department with a twin-engine patrol plane and a helicopter;

- to create a legal framework for use of unmanned systems (with regard to MUBG and other components of Polish maritime forces).

Recommendations for the Maritime Search and Rescue Service

It is necessary to create a coordination system for SAR and land services for search and rescue operations on territorial waters, in the exclusive economic zone and the area of search and rescue responsibility. In 2016, appropriate standards were introduced into the new *Act on Counter-Terrorism Measures of 10 June 2016*. These solutions need to be introduced in respect to all services responsible for rescue operations at sea. It is necessary for the appropriate ministries of maritime economy, national security, internal affairs, and health to provide the required strategic solutions.

The acquisition of a new, multi-purpose, specialized ship is essential. This ship would be used to counteract various maritime threats, act as an emergency tugboat for damaged ships, provide rescue assistance, fight fires on ships, eliminate oil and chemical spills as well as perform search and rescue actions for shipwreck survivors and in other emergency situations at sea.

Recommendations for the maritime administration

The Polish maritime administration should treat the speedy creation of a spatial development plan for Polish maritime areas and its environmental impact assessment as a priority.

Recommendations for the crisis management system

Special focus needs to be placed on the issues of the protection of port infrastructure which is regarded as critical, particularly the LNG gas port facility in Świnoujście, loading facilities, fuel tanks, repair equipment, and IT systems that control traffic and security of harbor space. Therefore, we need to create appropriate conditions for organizations competent for emergency management in Provincial Offices to carry out emergency management tasks in a full manner, particularly those connected with the protection of critical infrastructure. These include facilities of vital importance to the security and defense of national and privately operated facilities key to the country's economic and defensive potential situated in coastal provinces.

The need for the actions described above also results from the potential integration of the harbor infrastructure and objects important to security and defense that are not located on the coast but which will serve as facilitators for HNS operations for allied forces arriving in Poland by sea.

The unique character of coastal Provinces should be reflected in actions, which are a part of civil planning (emergency management planning, structure preparation, resource and database maintenance, the ability to rebuild destroyed or damaged infrastructure, spatial unity). Simultaneously the unique character of the tasks connected with these Provinces should be included in the structure and equipment of crisis management organizations on a Provincial level, alternatively on a County level depending on the location of critical infrastructure.

CONCLUSION

Poland's Strategic Concept for Maritime Security is the result of works conducted by the Committee comprising experts from the National Security Bureau, the Polish Naval Academy, the Council on Naval Shipbuilding, and the General Józef Haller Institute, with the benefit of the knowledge and experience of the representatives of various departments and institutions. The proposal aims to introduce systemic State activities in the area of maritime security, in particular those connected with the use of Polish maritime forces and their development. Introducing the recommended solutions will result not only in the facilitation of the national security subsystem but also in increasing the international importance of Poland and its promotion to the group of maritime nations. It will also lead to effective threat counteracting and will lower the tensions in a dynamically changing security environment.

The analysis of the Polish maritime forces' potential, particularly that of the Polish Navy, proves that it is not adequate to its goals and appropriate maritime regions. Amending this situation is not only important, it is an essential requirement for responsible and secure functioning in an unstable international environment.

The presented Poland's Strategic Concept for Maritime Security does not cover all the subjects connected with maritime security. The Author's main goal was to begin a debate on the topic of the country's maritime security and to inspire appropriate, governmental entities of various levels connected with national security to act together in order to secure Poland's maritime interests and provide uninhibited development. Such a debate should lead to the adoption of a comprehensive *Maritime Strategy of the Republic of Poland*.

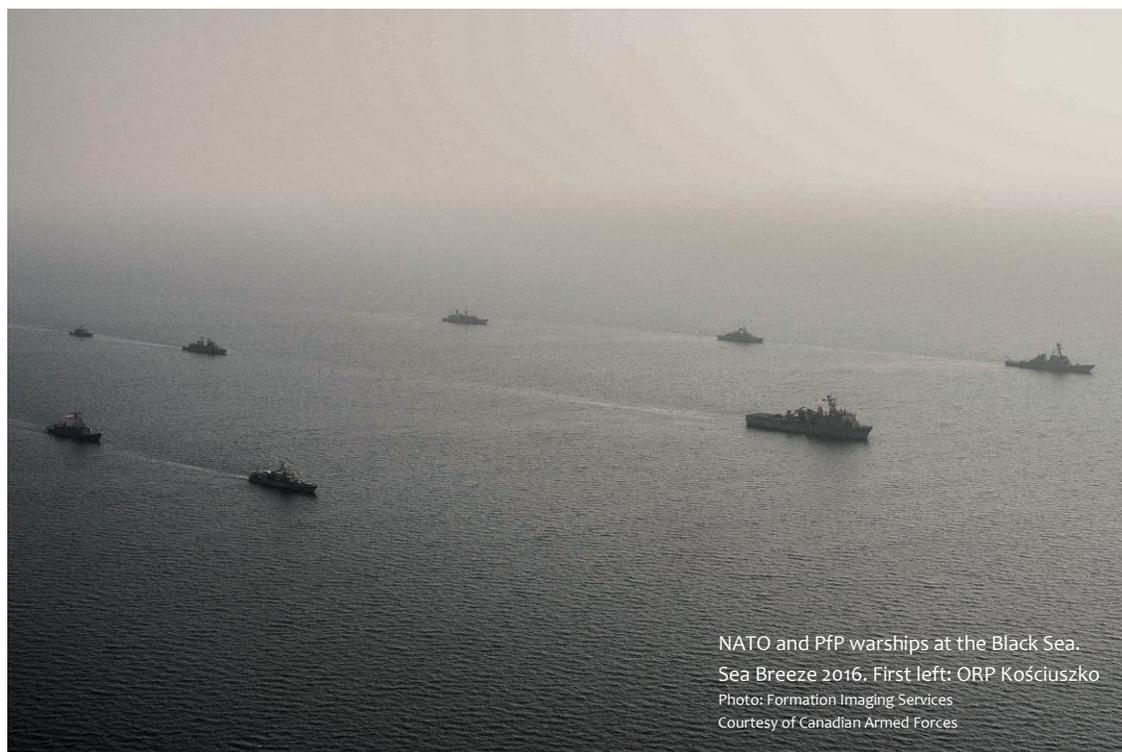


Figure 10. Idea of Poland's Strategic Concept for Maritime Security

Poland's Strategic Concept for Maritime Security



APPENDIX 1. Sea and ocean legal order

The present maritime legal order is codified in the 1982 *Convention on the Law of the Sea* (UNCLOS), introduced in 1994. The standards included in the Convention, which were ratified by Poland in 1998, stem from old common law, but they also reflect the tendencies in the development of international law in the second half of the 20th century.

International and territorial waters

The Convention divided maritime areas into international and territorial waters (which are a part of a country's territory). According to the Convention, territorial waters include: internal sea waters, territorial seas, archipelagic waters, coastal waters, and exclusive economic zones (EEZ). Poland's jurisdiction of internal sea waters and the territorial sea (12 nautical miles from the baseline) extends to water, the airspace over that water, and the sea bed of inland waters and the territorial sea, as well as to the ground beneath them.

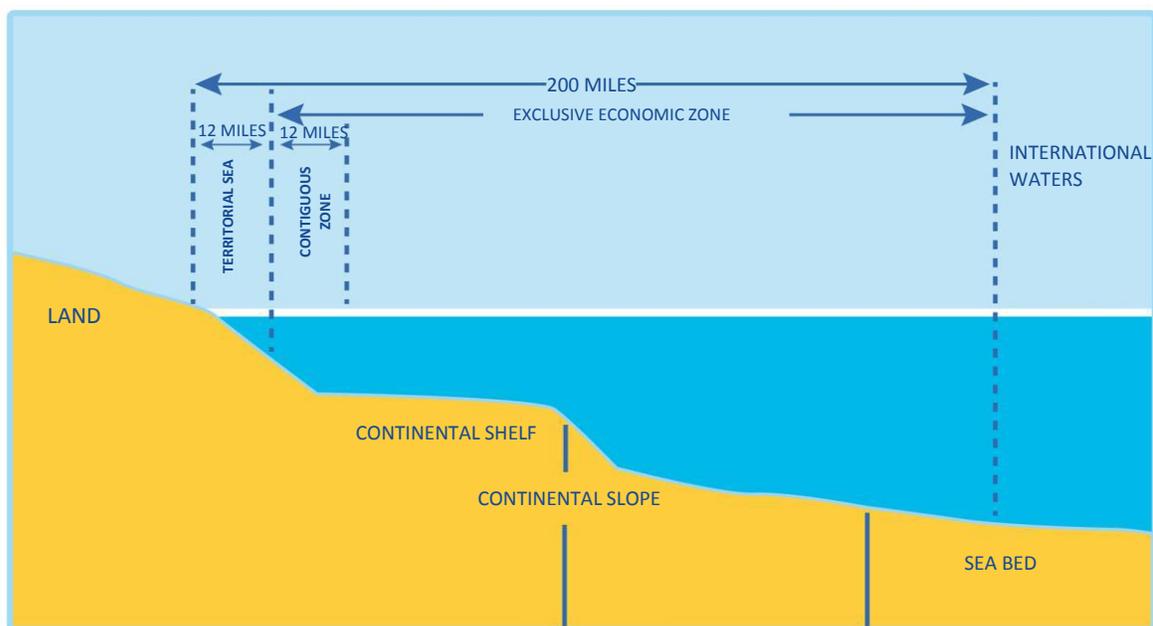
In the contiguous zone (24 nautical miles from the baseline, i.e. 12 nautical miles off the territorial sea, the country's border), Poland has the right to act when Polish customs, treasury, sanitary, illegal immigration, and sanitary laws are broken, and to pursue, stop, and punish the people responsible. These laws may also result from international agreements. The creation of a contiguous zone does not change the borders of a country. The Convention recommends that maritime issues between countries, especially in the cases of boundary delimitation, should be settled by the International Law of the Sea Tribunal in Hamburg.

Each maritime area possesses an individual legal status but the freedoms of international waters (to navigate and fly over, to lay pipes and cables) are in force in the contiguous zone and the exclusive economic zone as well, which fall into the jurisdiction of a sovereign nation under international law.

The border delimitation introduced by the Convention resulted in the division of the Baltic Sea into territorial waters (internal sea waters and territorial seas) and other contiguous waters and exclusive economic zones for appropriate countries stated in bilateral agreements, where freedom of navigation applies – in the same way it is applied in international waters. Because of its relatively small size and semi-enclosed character, it was impossible to create 200 mile exclusive economic zones in the Baltic Sea. The standards of the Convention in the case of semi-enclosed sea recommends the cooperation of coastal countries.

In regard to the sea bed, the Convention introduced the division into the continental shelf and the "Area" (the region of sea and ocean floor and the ground beneath them that does not fall under the jurisdiction of any country). The Convention introduced the definition of an archipelagic state, archipelagic waters, and the transition through an archipelagic sea route. The Baltic Sea does not have any "areas" or archipelagic states. Due to the size of the Baltic Sea and the inability to determine the full 200-mile exclusive economic zone, the external borders of the Polish zone have been defined by bilateral agreements.

Figure 11. Maritime zones



Source: own elaboration.

The status of a warship

The Convention defines a warship (see Terms and Definitions) as well as the "non-commercial governmental ship" (e.g. Maritime Border Guard Department or Maritime Search and Rescue Service ships). These warships have full immunity from warships of other naval colors. This means that such a warship has to abide only by the laws of the country of its flag. Even if such a warship enters a foreign country's harbor (after acquiring appropriate permissions according to international and internal laws), any official actions (e.g. coming on deck for inspection purposes) by that country's representative can only be performed with the permission of the commander of the warship (the captain), i.e. the permission of the flag country. Each warship at sea acts as a temporary external body of a State in its foreign relations.

The freedom of navigation through territorial waters, including international straits and archipelagic waters, and the freedoms of international waters, including the freedom of navigation and freedom to operate outside of territorial seas and archipelagic waters of other countries (resulting from common laws) are the most important rights in regard to military maritime operations.

The right of innocent passage pertains to territorial seas and archipelagic waters. This right, however, may be temporarily suspended by a country due to security issues. The right pertains to all

warships (submarines need to travel on the surface and with the flag hoisted), but not to war aircraft. The right of transit or the right of innocent passage is used in regard to straits used for international navigation. The right of transit or the right of innocent passage may not be suspended in the case of straits of international importance.

Warship jurisdiction and command

On international waters, warships and non-economic governmental ships have jurisdiction over ships with the same flag.

If there is a suspicion that a ship is responsible for piracy, human trafficking, transmission of illegal programs, does not raise any flag or a flag of a foreign country or refuses to show its flag and in reality belongs to the same country as the warship, that ship falls under universal jurisdiction, which means it can be inspected by a warship of other countries. The Convention recommends cooperation in fighting piracy and the illegal narcotics or psychiatric drugs trade. To ensure the performance of these actions all warships have the right to visit and pursue.

Maritime spatial planning

The modern use of the sea (use of renewable energy sources, search and exploitation of oil and natural gas deposits, maritime transport and harbor services, environmental protection, resource acquisition, tourism, aquaculture, and the underwater cultural heritage) as well as the existence of delimitation issues require an integrated system for maritime spatial planning, mainly because of security issues and competition between given entities that want to use the maritime region in different ways.

The Polish maritime administration should treat the speedy creation of a spatial development plan for Polish maritime areas as a priority. Conflicts over the use of maritime regions, particularly when on an international scale, can generate real threats to the national maritime security. The prevention of these threats is one of the main tasks of the maritime forces.

The law of armed conflict

Issues connected with maritime armed conflict are regulated by the Hague Convention and the Geneva Convention with the standing interpretation being the *San Remo Manual on International Law Applicable to Armed Conflict at Sea*, a guide prepared by the International Institute of Humanitarian Law. The XXVI International Red Cross convention (1995) has obliged nations to edit their manuals on humanitarian law in the case of armed conflict at sea and recommended the use of the San Remo manual stipulations. Among the most important rules of the international humanitarian laws during conflict are the following:

Principle of humane treatment – protects the casualties of war and their basic rights without regard of side; prohibits inflicting unnecessary suffering.

Principle of distinction – the sides of the conflict should always discern between civilians and combatants (who are actively participating in the armed conflict) and between property of civilian and military character and should perform their military operations only against military targets.

Principle of proportion – a country can protect itself with the use of means proportionate to the means of attack only to the extent necessary to repel the attack.

Principle of military necessity – a country may use only the necessary force to achieve its goals with the use of armed forces; that use may not break any laws of armed conflict. The principles of proportionality and legality are two main elements of military necessity.

APPENDIX 2. The character, and international and geopolitical status of the Baltic Sea

The character of the Baltic Sea

The Baltic Sea forms our country's northern border. It is a shallow sea on a continental shelf in the north of Europe in a temperate climate. The Baltic Sea is a unique water region on a global scale. It is encircled by land. The Baltic coastline is approximately 8,100 km long. The coastline is varied and heavily developed, which stems from a large number of lagoons, bays, peninsulas, and islands, particularly numerous at its northern and western border. Sills, glacial troughs, and shallows are characteristic of the Baltic Sea. They are mainly built from sand, gravel, and stone, the remains of glacial moraines.

Baltic states include: Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Poland, Germany, and Denmark. Norway is treated as a Baltic state as well because of political, military, historical, and economic reasons but geographically speaking it is not a Baltic state. The Baltic continental divide also includes: Slovakia, the Czech Republic, and Belarus. To 5 countries, Estonia, Finland, Lithuania, Latvia, and Poland, the Baltic Sea is the only means of access to the ocean. The Baltic countries are united in various formalized and non-formalized structures with interests in the maritime Baltic security, the development of economic, social, and technical cooperation, humanitarian aid, environment protection, the development of science, culture, education, and tourism in the Baltic region. Among the most important platforms for Baltic cooperation are: the Council of the Baltic Sea States, Baltic Marine Environment Protection Commission, Baltic Sea States Association as well as subregional cooperation forums such as the Baltic Council which includes Lithuania, Latvia, and Estonia as well as the Nordic Council which includes the Nordic countries and their autonomous territories.

The Baltic Sea is important to the Polish economy and security. The access to the Baltic Sea enables the connection between the Polish economy and the global market. Polish maritime areas are rich in natural resources and are the basis for a few economy sectors. They also provide ample opportunities for their use in the development of renewable energy. The Baltic Sea is a shallow continental shelf sea, with a medium depth of only 52.3 meters (maximum of 459 m). Its meridian spread is 1,300 km wide (Gdańsk – Harpanda) and parallel spread is 700 – 1100 km wide (Jutland Peninsula – Klaipeda; Jutland Peninsula – Saint Petersburg). The Baltic Sea is connected with the world ocean through Kattegat, Skagerrak, and the Northern Sea. There are two man-made connections as well: the Kiel and the White Sea Channels.

The uniqueness of the marine environment of the Baltic Sea translates into the variability of its conditions, which have a direct impact on the use of maritime forces. Among the key factors are: air and water temperature, salinity, thermohaline stratification, ice formation, wind and sea state, and wind waves. The Baltic Sea is a non-standard basin, and its observable effects are characterized by high variability. Its physical and psychological impact on working conditions is larger than in the case of other seas located in similar climates. The hydrological conditions that can be found in the world ocean at a depth of 1,000 m occur at nearly 10 times lesser depths in the case of the Baltic Sea.

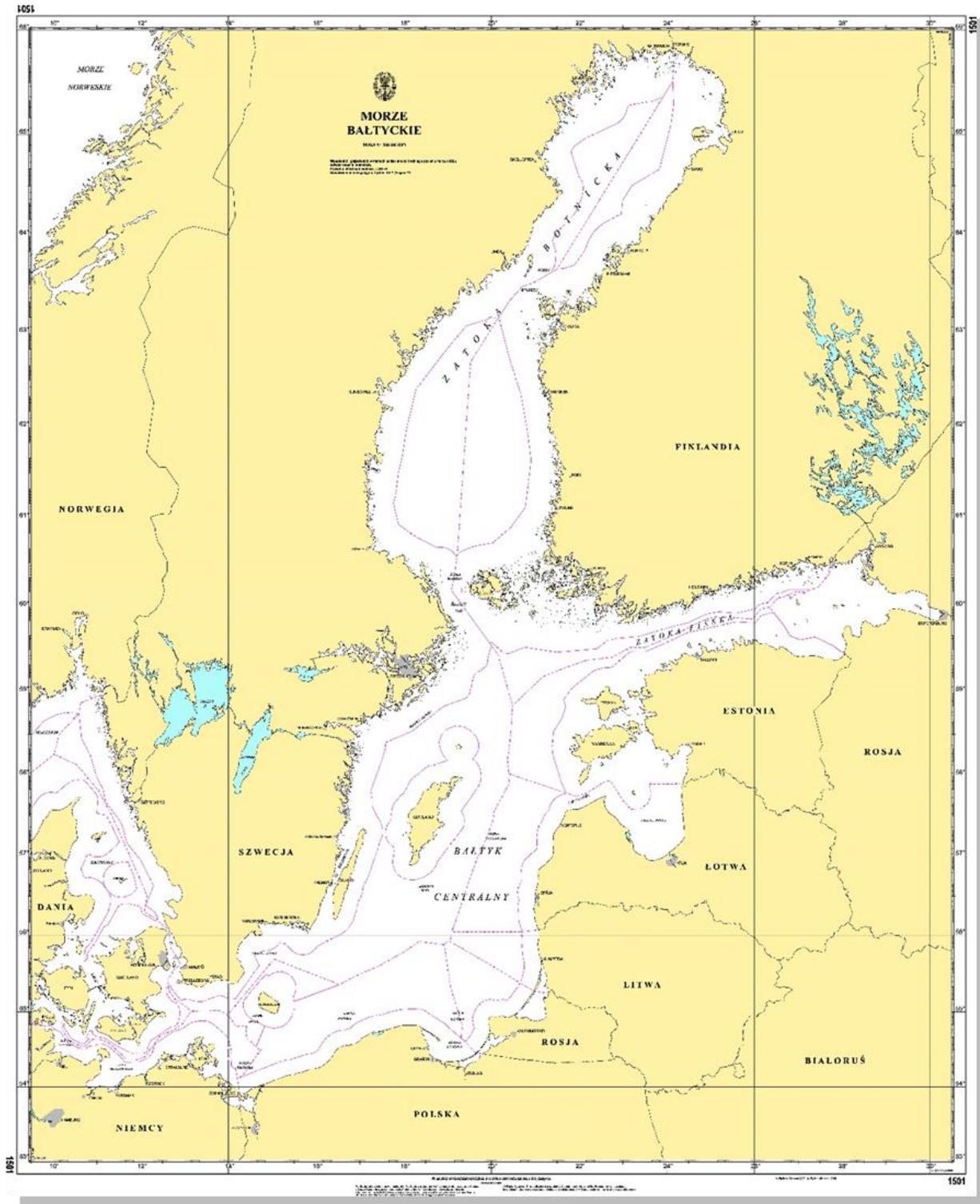
Figure 12. Geographical map of the Baltic Sea



Source: Ministry of National Defense, edition: Szefostwo Geografii Wojskowej.

International legal status and geopolitical situation

Figure 13. The division of the Baltic Sea into territorial waters and exclusive economic zones

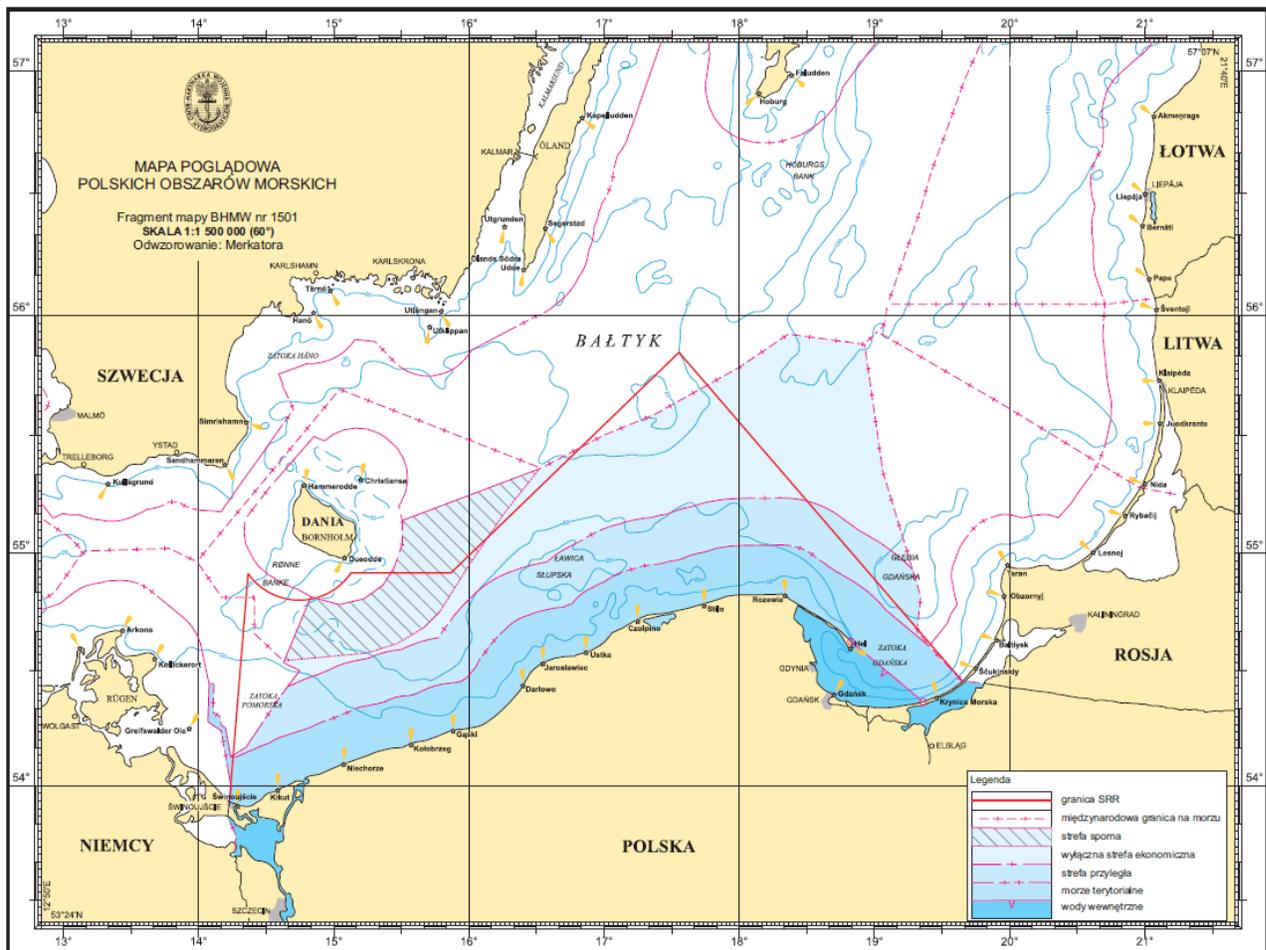


Source: Hydrographic Office of the Polish Navy.

The location of Poland by a semi-enclosed sea has additional implications outside of part IX of the *Convention on the Law of the Sea* of 1982. As a result, Poland, according to article 70 thereof is treated as a geographically disadvantaged state. This means that Poland has limited access to oceanic routes (only through the Danish Straits and the Kiel Channel) and a disadvantageous proportion of maritime to land area (approximately 11%). This, however, does not result in any preferential or additional advantages.

Poland is the only Baltic country which to this day has not settled the issue of the division of the exclusive economic zone in the vicinity of Bornholm Island with Denmark (Fig. 13). The agreement on the delineation of maritime areas in the Bay of Pomerania, signed in Berlin on May 22, 1989 (reconfirmed by the Polish-German border treaty, November 14, 1990) on the roadstead and access to Świnoujście proves to be inefficient in regard to the "temporary difficulties" of its use. The Polish Act on Maritime Areas and Maritime Administration of March 21, 1991 does not include articles on the continental shelf, which limits Poland's rights in that area.

Figure 14. Polish maritime areas and SAR liability area (overview map)



Source: Hydrographic Office of the Polish Navy.

The current status and division of the Baltic Sea does not limit the freedom of navigation and flight in the exclusive economic zones of individual countries, included in article 58 of the Convention. This means that standard military operations are permitted therein in times of peace. The activity of NATO fleets in ports and anchorages is regulated by the STANAG 1100 standards³³. From a military standpoint, the size, depth, and hydrological parameters of the Baltic Sea are most important

The Baltic Sea at the beginning of the last decade of the 20th century ceased to be an arena for potential conflict between two political-military blocks and became an area of cooperation (particularly of an economic nature). The security environment of the Baltic Sea remains fairly stable, although some tendencies and events are a cause for concern. When compared to the conditions of the Cold War, the current situation that shapes the security environment of the Baltic Sea is undergoing dynamic changes. The charter of threats has also changed, although not all of them have been neutralized – they work in the background in a weakened state, activated in a larger or smaller manner depending on the needs of the party. According to the leaders of the member states of NATO, the security situation in the Baltic region has deteriorated since 2014³⁴.

The current security problems in the Baltic Sea mainly pertain to the increasing militarization of the region and non-military issues, particularly problems with raw material transportation, the security of navigation, and the state of environmental protection. Regional cooperation, however, is continuously developed mainly through the actions of the Baltic Environmental Protection Commission, the Baltic Sea States Council, the Partnership for Peace program, and as part of the maritime search and rescue services operations.

³³ *NATO - STANAG 1100. Procedures for visits to NATO and non-NATO ports by naval ships of NATO nations.*

³⁴ Official statement of the leaders at the NATO Warsaw summit, op. cit., par. 23.

Terms and Definitions

- **Alliance** – an agreement between two or more states to achieve a wide range of (national) security long-term goals, which at the same time enhance the common interests of the allied states.
- **Antiterrorism operations – defensive and deterring** actions of the State's security forces, civil services, and security agencies based on the reduction of vulnerability of people and assets to acts of terror (events of terrorist character) through limited reactions to such acts and their prevention.
- **Areas of vital maritime importance** – sea and oceanic areas with coastal regions, where the maintenance of peace, legal order, and high environmental protection laws is vital to the interests of a country, because of their importance to the military, trade routes or maritime infrastructure security, or because of their natural resources.
- **Asymmetrization of security** – the process of creating asymmetrical relations between various organizations (of various characters and potentials) in the security environment and the use of asymmetrical methods in security operations.
- **Balanced maritime forces** – the maritime forces whose power allows them to successfully accomplish all the objectives under the State policy on the waters identified as vital for the broadly defined national interests and security.
- **Coalition** – an agreement between two or more states. Its aim is a joint operation.
- **Contingency planning** – the process of advance planning (directional general) for the event of future threats and crisis situations.
- **Counter-terrorist operations** – all **offensive** actions aimed at the neutralization of terror before and after the terrorist act.
- **Credibility as an ally** – based on political resolve, consistency of the declared values and the performed actions, and consequently developed military potential ability of an ally to a constant and predictable execution of the obligations resulting from the assumed duties as a member of the Alliance, resulting at the same time in strengthening ties and resolve in reaction of the Allies when necessary to provide assistance to that ally (implementation of Art. 5 of the North Atlantic Treaty).
- **Expeditionary operations** – military operations characterized by fast deployment of forward, independent forces, including fast response forces, conducted to achieve clearly defined goals on foreign territory.
- **Forward presence** – temporary presence of maritime forces outside of the Baltic region for national and alliance purposes (securing national maritime interests, peace keeping), training purposes, enhancing cooperative abilities, ensuring the state of fast response in the face of threat, demonstration of the will and ambition of a nation, deterrence of potential enemies, alliance development or maintaining relations with the Polish community abroad.
- **Hybrid warfare** – the type of warfare that consists of many various means and methods of violence, mainly including armed regular and irregular operations, cyberspace warfare, and economic, psychological, and information warfare activities, etc.

- **Immunities of warships and other government ships operated for non-commercial purposes** – the exemption of a ship (a vessel serving a country) from the authority of administrative, judicial, and enforcement bodies, as provided by the immunity of the State, based on the equality of sovereign States.
- **Level of ambition of a state** – the scope and character of the military actions desired, planned, or taken by the State in the context of its obligations to its alliance.
- **Local/littoral sea control** – the ability to control three main areas of the sea (air – surface – underwater) and cyberspace in order to maintain freedom of operation for allied and own units. The phrase "local control" pertains to limited geographical and time conditions. The main aim of local sea control in the Baltic region is preventing area denial capabilities until allied maritime forces arrive to the theater by preventing the enemy from fulfilling their strategic objective. It is critical not to achieve air superiority but to prevent the enemy from achieving it. This requires the presence of warships capable of providing constant area air defense and attacking missile carriers. The key requirement for breaking through the A2/AD capabilities of a potential enemy is the paralysis of the command and control chain and targeting systems (C4ISR). To achieve this result we need to cooperate on a national and allied level and use long range strike systems (e.g. NSM, JAASM, JAASMER systems).
- **Maritime Domain Awareness (MDA)** – an efficient understanding of any maritime activity that affects maritime security, economy, or the environment.
- **Maritime economy – maritime industries** – a system of business operations and their consequences, associated with the maritime environment, that involves the production, processing, distribution, and consumption of goods and services, and maritime spatial planning. The navy is an integral part of the maritime economy, and its authority brings all the components of the maritime economy together to protect them and drive high standards and growth.
- **Maritime forces** – include all of the forces and resources of the country that are used to conduct its policy at sea. They include: the Polish Navy with hydrographic services, maritime special operations units, the Maritime Regional Unit of the Border Guard, local maritime administration institutions, the Maritime Search and Rescue Service, the Customs Service, the water police and other maritime security agencies like military and maritime schools, scientific organizations, and training centers.
- **Maritime identity** – the presentation of the identification with elements of maritime reality to other individuals, social groups, or to oneself, described in psychological, sociological, and cultural terms, shaped by the environment (here: the coastal character of a State), in which the individual is socialized.
- **Maritime interests** – all constant benefits derived from maritime areas, explicitly defined and consistently pursued by a country, either directly (e.g. through the operations of its navy or diplomacy) or via other parties (e.g. businesses) interested in these benefits. They are the outcome of the country's needs, aspirations, and opportunities.
- **Maritime safety** – counteracting or reducing the subjectively recognized threats and challenges relating to human activities on sea waters, which result from technical, procedural, or personal

inadequacies, coupled with hydrometeorological conditions. In Poland, safety matters are regulated under the Maritime Safety Act of August 18, 2011 (Journal of Laws of 2011, No. 228, item 1368).

- **Maritime security** – protecting the land and maritime territories of the State, its infrastructure, economy, environment, and human resources against any seaborne challenges and threats. This includes the enforcement of the applicable national and international laws, and the maintenance of the State's territorial integrity. It ensures the conditions for using the waters identified by the State as vital in line with its will and national interests.
- **Maritime security & safety** – an umbrella term that covers both maritime safety and maritime security. It refers to the state of affairs across the global ocean, in which international and national laws are successfully enforced, the freedom of navigation is guaranteed, and citizens, infrastructure, transport, the environment, and marine resources are effectively protected.
- **Maritime security opportunities** – conditions independent of the will of the party (security events and processes) which facilitate the State's interests and achievement of maritime security goals.
- **Maritime zones** – an area consisting of internal sea waters, territorial waters, archipelagic waters, contiguous zone, exclusive economic zones, continental shelf, and the international (open) waters and Area (sea-bed and ocean floor and subsoil thereof beyond the limits of national jurisdiction). These areas are defined in the United Nations Convention on the Law of the Sea signed in Montego Bay, December 10, 1982 ratified by Poland in 1998. The legal status of maritime regions is defined by the Polish Act on Maritime Area and Maritime Administration of March 21, 1991 (Journal of Laws of 2013, item 934 as amended).
- **Multi-purpose frigate** – the most basic and the smallest class of NATO warship, acting in three roles: airborne attack craft elimination, seaborne and underwater attack craft elimination (air – water – underwater), anti-aircraft defense and protection of other elements, such as corvettes, submarines, mine disarming forces, or land forces operating on the coastline. The conditions for their use are: (1) appropriate space and power (installation of command stations, sensors and effectors, modernization capabilities), (2) minimal maritime abilities enabling the use of sensors and effectors during rough sea conditions (all year long without regard for hydrometeorological conditions) and (3) appropriate resource base for a helicopter. A multi-purpose frigate accompanied by a helicopter is the basis of Standing NATO Maritime Groups, NATO's fast response forces. For a multi-purpose frigate to carry out its missions and maintain modernization capabilities, its displacement should be between 4,500 and 5,000 t.
- **National (state) security system** – the sum of forces, means, and resources used by the State to achieve security goals. The system is appropriately organized (in subsystems and links), maintained, and prepared. It consists of a command subsystem and a number of operational subsystems.
- **National security** – the type of security that concerns a nation organized into a State. National security is the overriding mission of society as a whole and its national structures, and involves the constant fulfillment of two interrelated functions. The first, or primary, is to protect and defend national values and interests against any existing or potential threats, and it ensures the

conditions necessary for the performance of the second function, i.e. to create internal and external conditions for free growth and for meeting the challenges that the nation faces as a result of changeability, unpredictability, and socio-economic progress.

- **Naval diplomacy** (*also called diplomacy at sea*) – the pursuit of foreign (international) policy with the use of warships through military operations other than war with the aim of pursuing national interests. Naval diplomacy encompasses a wide range of operations between classic policy and waging war. These actions may be of non-military character (humanitarian aid, civil-military cooperation, forward harbor presence) or be performed with the use of force in a limited scope (peace-keeping operations, maritime blockades, and enforcement).
- **Non-territorial threats (operations)** – limited scope threats (operations) of fast, unexpected, selective nature. Their aim is not to occupy a certain portion of a State's territory, but to force the attacked party to act according to the interests of the attacker.
- **Poland's Strategic Concept for Maritime Security** – in compliance with the provisions of the National Security Strategy of the Republic of Poland and the maritime security strategies of the EU and NATO, specifies how Polish maritime forces are to be developed and used for the accomplishment of objectives associated with maritime security during times of peace and crisis, and with warfare, at the national, allied, and coalition levels. This document constitutes a starting point and conceptual foundations for further work on the development of Poland's maritime security.
- **Polish maritime interests** – the set of constant and national maritime interests, permanent goals, and values connected with maritime affairs, affected in a long-term and consistent manner by the Polish national security system. Poland's maritime interests stem from and are the extension of national security interests.
- **Primary deployment area** – sea waters, where, due to the vital interests of the State, or allied or coalition commitments and (political, military, or economic) aspirations of the State, maritime forces are the most likely to be deployed.
- **Response capabilities in rapidly developing situations** – the ability of the national security system to countermeasure (avoid, counteract) rapid, surprising attacks of various kinds. Poland, as a NATO and EU border state, is particularly prone to threats of a rapid, surprising, selective character and scale – these threats do not require long or observable preparations, but may be a successful means of threatening and performing political and strategic pressure. These threats do not have to be linked to territory dominance purposes. This is why they are also called situations of difficult consensus. Poland should be able to completely react to these types of threats (mainly through intelligence and reconnaissance capabilities; air defense, including missile defense; force mobility with special emphasis on helicopters).
- **Risks in maritime security** – the term refers to the impact caused by an event or act (the threat) and the likelihood of its occurrence, which in turn affects the level of maritime security or possibility of executing specific maritime interests.
- **Seakeeping** – the ability of a warship to safely travel and use its military and technical capabilities in unfavorable hydro-meteorological conditions. It is described by such warship trait as ship stability, which defines the maximum state of the sea for safe sailing and use of

weaponry. Additionally ships are described by their floodability, allowable trims and heels, and others. Seakeeping is used to describe the level of a warship's independence in unfavorable weather conditions.

- **Security challenges** – problematic security situations that generate decision issues.
- **Security environment** – external and internal, military and non-military (civilian) security conditions (for the pursuit of security interests and goals) characterized by such categories as challenges, opportunities, risks, and threats.
- **Security opportunities** – conditions independent of the will of the party (security events and processes) which facilitate the State's interests and achievement of security goals.
- **Security party** – every purposefully acting unit (individual or group) analyzed from the point of view of its security. In the context of political security the most basic security parties are states (nations acting as countries), state's organizational units (e.g. provinces, counties) and international organizations (interstate organizations and most frequently – non-governmental organizations such as corporations, terrorist, or crime groups).
- **Security risk** – results of State's actions that may be a threat to its security.
- **Security threats** – direct and indirect destructive actions. This is the classic security environment factor. There are potential and real threats; subjective and objective threats; internal and external threats; military and non-military threats; crisis and war threats; intentional and random threats.
- **State's maritime security challenges** – problematic situations arising from risks and challenges that generate decision issues to the parties responsible for the State's maritime security.
- **State's maritime security environment** – the sum of the conditions in which a given State tries to achieve its maritime security goals characterized by challenges, opportunities, risks, and threats.
- **State's maritime security threats** – direct or indirect, disruptive or destructive actions that affect the State's maritime security.
- **State's strategic security goals** – national interests in the context of operations, that is the division of particular national interests in the context of particular (present and future) strategical security conditions and the needs and capabilities of a nation (the State's strategic potential) – future states, events and processes desirable from the point of view of those interests. In comparison to national interests, which are characterized by their permanence, strategic goals pertain to particular conditions in a given historic period; they are achieved through the use of security policy.
- **Strategic security environment** – a geopolitical area where processes (events) take place that are of vital importance to the security of the State (region, alliance, etc.), described by exterior and interior factors that affect the security and strategic goals. These factors include challenges, opportunities, risks, and threats.
- **UNCLOS** – the United Nations Convention on the Law of the Sea, adopted in Montego Bay on December 10, 1982.
- **Warship** – a vessel serving in the State's armed forces, explicitly marked as one with the naval colors of that State and commanded by a naval officer of that State who is listed in the relevant

register of officers or in an equivalent document, with a crew that is subject to standard military discipline. **Each warship acts as a temporary external body of a State in its foreign relations.**