



Summary of Report – Stage A

Background

The area covered by Israel's Exclusive Economic Zone (EEZ), which measures more than 27,000 km², is greater than its terrestrial area. Israel's territorial waters measure about 4,200 km² and its coastline is approximately 195 km. The western boundary of Israel's EEZ, which is defined by agreement, has been established the midline between Israel and Cyprus, that is, about 70 nm from Israel's northern shoreline and about 110 nm from its southern shoreline. The southern boundary has yet to be delineated and to the north there is a dispute with Lebanon regarding the 15 nm at the western edge of this boundary.

Israel's marine area has tremendous potential for development and for the provision of a wide range of services— including ecological services— for the country. Recent decades have seen a substantial increase in the rate of development and extent of activities within the marine space. Examples include shipping; fishing and mariculture; exploration and production of gas and oil as well as their by-products; various infrastructure and pipelines for energy and communications; the provision of seawater for cooling and desalination; sand and in the future maybe calcareous sandstone (*kurkar*) mining; disposal of land-based waste at various levels of treatment through marine outfalls ; discharge of cooling water from power plants and of desalination brines; deep sea dumping of dredged spoils; tourism, marine sports and recreation; military and security operations; and more. In recent years preliminary feasibility studies have been conducted to assess the possibility of constructing artificial islands and infrastructures for the production of renewable energy.

The discovery of energy resources has greatly accelerated the rate of development while simultaneously raising public awareness regarding the threats it poses. Current and potential development practices constitute a serious threat to the delicate balance of the marine environment. Development that is not cautious and balanced could harm sensitive marine and coastal ecosystems. In the absence of a plan for the marine area or effective administrative tools for its implementation, such development could result in irreversible damage.



Israel has a very basic regulatory system that addresses some activities in the marine space, but with a sectoral approach. Even the Committee for the Protection of the Coastal Environment within the Ministry of the Interior, designed specifically to regulate uses in the sea, as well as several government ministries that have jurisdiction over particular activities (such as drilling, fishing and nature conservation) have not succeeded in establishing effective policy and regulatory tools that pertain to the sea. The policy paper on management of territorial waters in the Mediterranean Sea published by the Ministry of the Interior in the late 1990s, the Protection of the Coastal Environment Law of 2004, and resolutions of the Committee for the Protection of the Coastal Environment have indeed generated a broad multi-disciplinary and administrative perspective regarding the marine space, but they have focused, for all practical purposes, on a very narrow strip adjacent to the shore, pertaining only to the country's territorial waters.

Despite ever-growing attention to the marine space, the State of Israel still lacks a national marine policy that defines a vision, strategic objectives, principles, institutional processes, and tools for management of the marine environment including a policy for marine spatial planning. This state of affairs demands the formulation of a marine spatial plan for Israel. Under current conditions, many opportunities could be lost or delayed, and threats increase. This effort at developing the *Israel Marine Plan* aims to fill this gap.

The *Israel Marine Plan* is spearheaded by the Technion's Center for Urban and Regional Studies, part of the Faculty of Architecture and Town Planning. It is developed with participation of the Leon H. Charney School of Marine Sciences at the University of Haifa, Israel Oceanographic and Limnological Research, and other leading academic and professional institutions. The purpose of this report is to summarize Stage A of the preparatory process for the *Israel Marine Plan* and to provide an update of progress on the process for all partners and stakeholders with an interest in promoting the plan.



Framework of the Project

The *Israel Marine Plan* aims to address the need for effective, strategic, and integrative management tools for Israel's marine space. It should be noted that, at the same time, various government bodies and many stakeholders with an interest in the planning process, are undertaking initiatives to research and better understand the sea. Foremost among these entities is the Planning Administration within the Ministry of the Interior. The process of preparing the *Israel Marine Plan* aims to support and integrate itself with other initiatives, with the collective objective of generating a comprehensive, information- and knowledge-based plan that will facilitate balanced, effective, and sustainable management of Israel's marine resources. As such, it will serve all stakeholders who have an interest in the marine space, foremost among which are government bodies and enforcement and administrative entities.

General Perspective

The *Israel Marine Plan* highlights marine space as a distinctly public space and aims for balance and fairness in addressing the various interests of all stakeholders. The plan aspires to ensure the ongoing provision of ecosystem services over time. The perspective that views the sea as a public space stems from the doctrinal principle of the Public Trust Doctrine, which has been adopted by many developed, democratic states. This doctrine assigns the management of natural resources, such as coasts and seas, to the government in order to protect them for the benefit of the general public. One of the foremost objectives of the *Israel Marine Plan* will most likely be the achievement of balance and, beyond that, a synergy between the vast range of uses and interests of stakeholders in the marine space, on the one hand, and the marine environment itself, on the other.

The methodology that has guided the planning process for the *Israel Marine Plan* derives from cumulative global experience in the preparation of regional and national marine spatial plans, with emphasis on the principles of Marine Spatial Planning (MSP) and Ecosystem-Based Management (EBM).



The *Israel Marine Plan* aspires to be both a policy paper and spatial plan. The plan offers a vision, goals, and forward-looking objectives, as well as a strategy and policy tools for management of the marine space. Some of the strategy and policy tools will generally relate to the entire marine space, and some will specifically address geographic areas in 3-dimensional space (including depth) most suitable to appropriate spatial and temporal scales.

Preparatory Work and Stages of the Plan

Preparatory work for the *Israel Marine Plan* began in late 2013; its key findings will be synthesized and presented in 2015. The preparatory work for the *Israel Marine Plan* has been divided into seven stages. As noted, this report summarizes the first stage. The seven stages are as follows:

- A. Collection and Analysis of Data and Knowledge
- B. Definition of the Vision, Goals, and Objectives of the Marine Spatial Plan
- C. Preparation of Alternative Policy Scenarios
- D. Analysis and Selection of a Preferred Alternative/Scenario
- E. Preparation of a Document Detailing the Selected Policy Plan
- F. Adoption of the Policy and Dissemination among Implementers
- G. Recommendations for Implementation and Development of Monitoring Guidelines

Notwithstanding the division into seven basic stages, the work itself is not a linear process but, rather, an iterative process in which each stage incorporates feedback from all relevant fields of knowledge with a general progression among the stages and alongside active cooperation with all stakeholders. Accordingly, the aim is to establish an ongoing, multi-polar, interactive relationship (combining the areas of planning while engaging the planning teams and the stakeholders) across all stages.



Division of Work and Areas of Responsibility

This plan is being pursued through work teams and advisory groups. A full list is available on the plan's website: <http://msp-israel.net.technion.ac.il/>.

Integrating team

This team leads the project and coordinates the professional teams. It is headed by Prof. Shamay Assif and Assistant Prof. Michelle Portman, and includes Dr. Idan Porat of the Technion's Center for Urban and Regional Studies, Dr. Ellik Adler, Dr. Yael Teff-Seker, Prof. Yuval Cohen, and a team from Ethos – Architecture Planning & Environment: Alon Perelman, Barak Katz, and Tom Dror.

International Advisory Board

This advisory board includes eight advisors from Europe and the United States, marine managers and planners alongside academics, members of the private sector, and non-governmental organizations. The members of this board bring a wealth and variety of practical experience in marine spatial planning and management.

The International Advisory Board includes the following members:

Arch. Charles N. Ehler, President, Ocean Visions Consulting, France

Prof. Kate Johnson, ICIT Orkney Campus of Heriot-Watt University, Scotland, UK

Dr. Jens Enemark, Secretary Common Wadden Sea Secretariat, Germany

Dr. Vanessa Stelzenmüller, [Centre for Environment Fisheries and Aquaculture Science](#), Germany

Dr. Jeff Ardron, Institute for Advanced Sustainability Studies (IASS), Germany

Dr. Priscilla Brooks, Vice-President and Director, Ocean Conservation, USA

Ms. Stephanie Moura, Managing Partner, Sea Plan, USA



Professional Scientific Advisory Board

This advisory board is composed of 12 renowned professional members of academia and government research institutes in Israel, including the Israel Oceanographic and Limnological Research and the Geological Survey of Israel. The members of this board represent a variety of research fields related to ocean studies, including oceanography, biology, ecology, geology, environment and energy, engineering, cartography, security, and economics.

Multi-Disciplinary Consulting Team

This team is composed of 21 advisors from academia and the private sector representing 15 different disciplines: geology and geophysics; bathymetry and morphology; chemical oceanography; physical oceanography; marine biology; marine archeology; fishing and mariculture; energy; marine transportation; artificial islands; marine engineering and infrastructure facilities; law and jurisprudence; national security; economics; and climate change.

Researchers and Graduate Students Team

This team is comprised of five researchers.

Work Products of Stage A

This summary has thus far described the incentives behind preparation of the plan, the planning perspective, and its organization. This section will provide a succinct description of the work products of Stage A. These products include tasks conducted for the initiation and organization of the plan, guiding principles in the formulation of the plan, and a description of the main characteristics of Israel's marine space as well as preliminary insights from the collection and analysis of information. They will be presented in that order.



Initiation and Organizational Measures

1. Recruitment and staffing of the plan's various work groups and advisory boards: the integrating team, the professional scientific advisory board, the international advisory board, professional academics from 15 relevant disciplines, a professional team of researchers and graduate students, and a stakeholders' forum.
2. Administrative procedures, such as budget approval and formulation of a work plan, schedule, and milestones.
3. An initial meeting of the multi-disciplinary consulting team and representatives from the professional scientific advisory board.
4. An international workshop with the participation of Arch. Charles (Bud) Ehler and Ms. Stephanie Moura, the long-distance participation of Prof. Kate Johnson, Prof. Vanessa Stelzenmüller, Dr. Jeff Ardron, and Dr. Priscilla Brooks, the integrating team, the multi-disciplinary consulting team, and representatives of the professional scientific advisory board.
5. An initial meeting of the stakeholders' forum with the work groups and advisory boards of the *Israel Marine Plan*, which included a presentation of the plan's framework and round tables. A preliminary discussion took place regarding the goals and objectives of the marine spatial plan, with attention to identifying conflicts and synergies among various stakeholders in the past, present, and future.
6. An examination of alternatives and initial development of a plan-specific geographic information system (GIS) platform. It was decided at an early stage to establish a GIS tool that would support existing layers of information as well as the products of the ongoing planning process in an inclusive, flexible, visual, transparent, and participatory manner. This tool will serve all participants (at various levels) and will showcase the plan's products at its various stages. The GIS constitutes a tool for marine spatial planning in matters of mapping, information, and computerization, and it provides solutions in three pivotal areas of activity with corresponding dedicated interfaces: planning, participation, and management. It will have various interfaces for various users. The planning component is designed for



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professional experts and advisors from different disciplines, enabling group dialogue among experts and exchange of spatial and textual information and ideas regarding marine spatial planning in a flexible and visual manner; the participation component is designed for the general public and stakeholders, enabling observation of and reaction to the marine spatial plan's work products in an interactive, transparent, and participatory manner; lastly the management component is designed for decision makers at various levels, enabling spatial and statistical analysis of the information as well as information-based review of a development scenarios.

7. Creation of an internet site (<http://msp-israel.net.technion.ac.il/>) that will constitute the principal tool for interaction with the general public. The site will serve the following functions: presentation of a map of Israel's EEZ and its environment; the option of selecting layers to be presented, categorized by topic; use of basic tools; downloading some of the existing information in various formats.

Guiding Principles in the Formulation of the Plan

After reviewing the processes involved in spatial planning and studying the characteristics of Israel's Mediterranean Sea marine space, the participants and planning team identified ten guiding principles for planning, in keeping with the essence of the plan. The plan will: (1) be based on current information and knowledge, linking science with policy; (2) incorporate Ecosystem-Based Management (EBM), balancing its goals with environmental, economic, and human needs, also to ensure continued provision of ecosystem services; (3) be future oriented; (4) integrate various disciplines and stakeholders, including relevant authorities and management and governance bodies; (5) combine planning with integrated management of activities and uses in the marine space; (6) include stakeholders in all stages of planning and implementation; (7) distinguish among different geographic spaces while considering three-dimensions and appropriate temporal scales; (8) be flexible, current, and capable of incorporating lessons learned from experience as well as corrections of mistakes; (9) include accessible and interactive spatial representation using effective GIS tools of participation, planning,



and management; (10) be transparent, clear, and accessible to stakeholders as well as the general public.

Characteristics and Preliminary Insights from Data Collection and Analysis

Information was gathered across the various fields by the multi-disciplinary consulting team. Data collected consists by and large of existing information; it did not include new data generation efforts or mapping. The collection and analysis of data involved identification of existing sources of information and databases, identification of information gaps, diagnosis and identification of different uses of space and their environmental effects, actions needed to complete missing information using existing sources, cooperative efforts with other projects and initiatives. The multi-disciplinary consultants' data collection and analysis tasks fell within three principal groups: resources and infrastructures, environment and regulation, and information.

The density of uses and the pressures on this space are greater in the vicinity of and along the shoreline are greater and this has repercussion for the collection and analysis of data. Density decreases and the pressures diminish as distance from the shore increases. Likewise, the levels of information and knowledge as well as the regulatory tools and monitoring systems are denser and more plentiful near the shores, and they steadily diminish as one shifts westward, farther from the shore and towards deeper waters. Gaps in information are therefore greater in deeper, more distant waters.

1. A Sensitive Marine Environment Rife with Conflict

The entire shoreline of Israel is under tremendous development pressures of all sorts, which continually threatens the health and resilience of the marine space, its functionality as a public asset and open space, and its capacity to provide a variety of social, economic, and environmental services. These are in addition to external threats such as climate change, invasion of alien species, rising sea levels, and more.



During the past decade the scope of uses and pressures has increased significantly within Israel's territorial waters and EEZ. Within these areas communications infrastructure lines have been laid, and transport corridors as well as zones for the exploration, mining, and production of natural gas have been delineated. Areas for which permits have been granted to search for gas and oil already constitute a significant portion of the EEZ, and additional permits are expected to be granted in the future. The deep seas have also turned into "busy" seas, rife with development activities and extensive security-related activities.

All these factors give rise to a wide range of actual and apparent conflicts that demand informed decision making, sensitive and information-based management, and the identification of potential synergies among various uses. An appropriate marine spatial plan would provide the basic infrastructure for the achievement of these objectives.

2. A Marine Environment Lacking in Information and Knowledge

Throughout the years the mapping and study of Israel's marine environment were limited in scope, and focused mainly on the continental shelf. In this context, it should be noted that a national marine research policy is lacking, and as a direct result, there is no multi-year government funding of research activities at a level commensurate with the needs of the state. Most of the marine research activity in Israel – which has achieved impressive results – is funded by grants from research foundations in accordance with the personal areas of interest of researchers, and through the participation of researchers and research institutes in international research projects that do not always correspond with the needs of the state. The research findings have been presented primarily in scientific publications, and a significant portion of the raw data is not available to the scientific community as a whole or to other potential users. This state of affairs makes it difficult to conduct research-based and knowledge-based planning for Israel's marine space.

The lack of a national policy for data collection and management regarding the marine environment manifests itself, among other ways, as follows: (1) a lack of comprehensive policy for the study, mapping, and monitoring of Israel's marine



space; (2) limited or a complete lack of coordination among the various government ministries funding these activities; (3) the Israel Oceanographic and Limnological Research established a National Marine Data Center but the Government has not issued rules requiring that data gathered by means of public funding be submitted to the center and granting public access to the center's data. In the absence of a national marine policy, *Israel Marine Plan* would probably address these issues.

The discovery of substantial natural gas reserves in the past decade has resulted in greater attention to the sea on Israel's part. This increased attention has brought about interest on the part of public entities, research institutes, and private bodies to improve knowledge and research in the field. However, despite the many marine researchers in the areas of biology, geology, oceanography, archeology, environment, and other areas, currently available information is still limited. As mentioned, information and knowledge exists for the coastal areas and shallow waters, but diminishes substantially for areas westward.

A number of important recent developments in the context of deep sea research should also be noted: allocation of government funding for the purchase of a modern ship for deep sea research, which will be operated by Israel Oceanographic and Limnological Research (IOLR) and will serve the entire community of marine researchers; establishment of the Helmsley Mediterranean Sea Research Center at the University of Haifa, which will focus on the deep sea; and conduction of an environmental background survey in the area of Israel's EEZ (geochemical and biological characteristics and preparation of a habitat sensitivity map) by IOLR, funded by the Ministry of National Infrastructures, Energy and Water Resources.

World experts in this field assert that "there will never be enough knowledge" and that one should not wait for "enough knowledge" in order to develop a plan, to develop national marine policy, or to implement either. These actions are to be taken in conjunction with the on-going expansion of knowledge and research in order to improve the planning, management, and scientific dialogue so as to consolidate planning and decision-making along the way.



3. A Unique Geological and Biological Sea with Rare Heritage Values

The eastern part of the Mediterranean Sea is unique and fascinating in terms of geology, geophysics, and marine biology. The relatively small Levant basin of the Mediterranean Sea, which is located in easternmost basin of the Mediterranean Sea, constituting only 0.5% of all the territorial and oceanic waters (of which Israel's EEZ is part), includes a large portion of marine phenomena that typically appear only in spacious oceans: intensive geologic activity, unique biological phenomena of very deep waters, and many archeological heritage sites due to the Mediterranean Sea having been the ancient cradle of civilization. Biological uniqueness exists not only in the deep seas. Moreover, existing and proposed nature reserves along Israel's coasts include unique and important nature values.

The sea's unique characteristics, the beauty of the shores, and the cultural values they represent, provide a basis for the use of these areas for leisure and recreation, especially around the crowded center of the State of Israel. Therefore, it is highly important to establish and develop marine and coastal nature reserves and to protect the coastlines (authorized bathing beaches as well as open, undeveloped shores), and to promote marine and coastal sports in its various forms as a resource.

4. An Oligotrophic, Threatened Sea with Limited Fishing Resources – the Need to Preserve What Exists

In the aftermath of global trends (e.g., climate change), and intense regional and local environmental pressures, the eastern portion of the Mediterranean Sea has undergone significant changes in terms of ecosystem structure and function as well as the composition of biological species. The eastern Mediterranean Sea is an ultra-oligotrophic sea (poor in nutrients and primary production), a factor that reduces its production of biomass, thereby disabling the development of significant fishing resources. Biological diversity and primary production in the eastern Mediterranean Sea are lower than those in its western parts, while salinity and temperatures are rising in the eastward direction. The situation is compounded by the stress of invasion and at times eventual domination by invasive species, mainly through the Suez Canal. The recently announced plan to expand the Canal constitutes another potential



environmental threat. Scientists predict that the rate of invasion by alien species will increase if the Canal is expanded.

The loss of habitats as a result of coastal urbanization and industry, the dwindling of and damage to biological marine resources (such as fishing and other sources of nutrients), pollution of the sea and damage to its ecosystems (primarily from land-based sources but also from vessels and other marine sources), and climate change are the primary sources of harm to the marine environment. A variety of human and economic activities in combination with the extensive development being undertaken in Israel's marine space all pose threats to the sensitive ecosystems and to the provision of ecosystem services. Given the sensitivity of these systems and the fact that this space is relatively poor in the resources (e.g., fish stocks) fishing, it is imperative that existing resources and systems be protected and preserved.

5. The Sea – Rich in Energy Resources

In recent years more than 30 trillion cubic feet (TCF) of natural gas have been discovered, which according to current estimates is sufficient to meet the needs of the Israeli economy for the coming decades. The plan is for Israel to shift towards reliance on natural gas at a level of 60-70% of total energy sources, with most of the gas generated from the state's EEZ. Some of the resource will be slated for export. After many years of dependence on energy from foreign sources, Israel now has the opportunity to use these gas discoveries to achieve energy independence and new strategic geopolitical opportunities as an exporter to states in the Middle East and Europe.

While there is potential for additional discoveries of natural gas and oil, the drilling and extraction of these resources is a large-scale industry that entails extensive planning and the construction. Supporting infrastructures is needed for transmission, treatment, and supply, in addition to the development of a security system to protect these activities. Such a dense network of extraction and drilling infrastructures constitutes an environmental and economic threat in the event of an accident or sizeable spill.



Beyond this, natural gas has environmental advantages over other less efficient and more polluting fossil fuel energy sources. Given that the current outlook for the development of energy from renewable sources (such as solar and wind) is limited in the country and that there is no hydroelectric or nuclear option for Israel in the foreseeable future, the development of natural gas sources in the Mediterranean Sea is significant. Additionally, although significant production of renewable energy may be far in the future, the sea is undoubtedly a potential source of various forms of renewable energy (wind, solar, waves). The *Israel Marine Plan*'s recommendations are expected to include the development of this potential.

6. The Sea as a Gateway and Bridge to the World

In light of the unique geopolitical characteristics of the Middle East, Israel is in effect an island state, where the sea to the west serves as a gateway and bridge to the rest of the world. Through its ports, shipping lines, sailing routes, and communications lines, Israel's territorial waters and EEZ serve as a gateway linking Israel with the global economy and the international information highway of the internet. Interactions take place through import and export, underwater cables for transnational communication with states in Europe and America, and internet traffic from Israel to Europe and America. Accordingly, Israel's dependence on the marine space is critical.

In terms of trade, about 98% of import and export, by weight, pass through the EEZ of the marine space, and the shipping sector has the potential for long-term economic growth. The sector is especially important given that the State of Israel has limited natural resources and demand for imports is high. Reciprocally, Israel has a number of export sectors with relatively low demand within the country, but strong demand abroad: from raw materials such as potash and phosphates to high-tech products designed for the international market.

Besides functioning as a corridor that links Israel with the rest of the world, the marine space also serves as a base for international interaction and cooperation. Israel's proximity to the Suez Canal – through which passes the world's largest maritime trade route, connecting the Far East and Europe – contributes to the large number of cargo vessels within Israel's marine space generally and its ports



specifically. Notably, most of the sailing routes between the northern opening of the canal and ports in the eastern basin of the Mediterranean Sea pass through Israel's EEZ. This feature will be an important element in the preparation of the *Israel Marine Plan*.

7. The Sea for Security and Strategic Depth for the State of Israel

As mentioned, Israel functions as an “island state” with unique security and demographic characteristics. These transform its marine space in the Mediterranean Sea into a strategic asset of the highest order. In the context of Israel's political situation, protection of its sailing routes is a vital security mission. Israel deals with a complex, ongoing conflict with its neighbors and other states – a situation that transforms the marine space into a perpetual security threat. Moreover, Israel has a high population density and limited land reserves, and because of its geographic dimensions it lacks terrestrial strategic depth.

The situation described above is compounded by the fact that Israel's EEZ serves as a central sailing route at the regional level because it connects between the Suez Canal and the major ports of Lebanon, Syria, Turkey, Cyprus, and Greece. A large number of ships pass innocently through this region, and a seemingly innocent yet hostile vessel could easily inflict damage on Israel's strategic assets. Israel therefore needs to establish effective oversight and control mechanisms within its marine space, and in particular around its assets. As infrastructure interests are developed, foremost among which are the various gas installations the threats to Israel's interests increase and cover greater area. Accordingly, a strong need to defend the entire marine space exists. This can be aided through rigorous planning, coordination among the various stakeholders, and meticulous implementation.

8. The Sea as a Territorial Reserve

As noted, Israel's marine area is larger than its terrestrial area. The major population centers, which are in high demand for urban development and infrastructure development, span Israel's shoreline, with heavier concentrations around the center. Currently (as of mid-2014) Israel's population numbers approximately 8.2 million. According to forecasts of the Central Bureau of Statistics, Israel will have some 13.6



million residents in 2019 and about 15.6 million residents in 2059. This means that Israel's population will double over the course of only a few decades. Simultaneously, it is expected that averages for the standard of living as well as GNP will increase.

Accordingly, it will be necessary during the next 25 years to devise solutions that will double the range of built-up areas as well as the capacity for production and delivery from various infrastructure industries, to meet population growth and a rising standard of living if trends do not change. Even today, and even more so in the future, these factors are a source of intense pressure on the crowded terrestrial space and a threat to open spaces and sensitive coastal resources, as well as the spatial balance as a whole. Some feasibility studies and research reports have been conducted in order to explore the potential for developing the marine space for the sake of various urban and infrastructure needs. However, it is clear that such actions would have significant and potentially deleterious impacts to the marine environment.

There remains a great deal of doubt regarding the potential use of the marine space in order to address the intense pressures of urban and infrastructure development on the terrestrial space. These doubts stem from the high cost of generating "new land" within the marine space even before investing in its development, the fear of causing harm to the delicate ecological balance characteristic of marine systems, and the anticipated conflicts vis-à-vis other uses of the sea. Any consideration of such proposal should be assessed in view EBM and the Precautionary Principle, and in particular that they be employed only if their implementation at sea offers a relative environmental and economic advantage.

9. Fragmented Administration and Limited Governance in the Marine Space

Over the years the marine space has become a space that offers many uses and services, yet it is also a sensitive, vital, and threatened space in many respects. The regulation of all these factors lies in the hands of several government ministries: transportation, environmental protection, health, agriculture, communications, energy and water, internal affairs, tourism, justice, internal security, and defense. This list is supplemented by myriad authoritative institutions. These entities often operate with insufficient coordination, no master plan or guiding policy, and inadequate collective



attention to the potential inherent in the sea or the mutually detrimental effects of various uses of the sea.

The legislative tools and amendments in place today need to be strengthened, updated, and supplemented in order to enable appropriate oversight and enforcement of human activities at sea and along the coast. Likewise, there is a need for better instruments for planning and management with respect to the marine space, including continuous mandatory monitoring and research, control and oversight mechanisms, and explicit, transparent regulation. Such measures will make it possible to balance interests, many of which are private and capital-intensive, and may tend to neglect the public interest.

The Next Stages

During Stage A of the *Israel Marine Plan*, advisors and experts, leading figures in their fields in Israel, have been requested to collect existing data and knowledge and to submit 9*-reports. These reports summarize the current state of affairs, trends, and knowledge gaps with respect to the marine space in Israel. The reports, some of which have been completed and some of which are still being prepared, will soon be made available through the plan's internet site and through a separate publication. The intended publication will consolidate the main findings to present the current "state of affairs" within Israel marine realm.

In parallel with Stage A, work has commenced on Stage B – definition of the vision, goals, and objectives of the *Israel Marine Plan* – which draws on information collected during Stage A. Stage B began with a review of the goals and objectives of various marine spatial plans around the world. The process continued with cooperative endeavors on the part of the various working groups, including the stakeholders' forum, the multi-disciplinary consulting team, and the advisory board. The methodology for Stage B was formulated at this time. In conjunction with all advisors and partners, the team will develop a vision, goals, and objectives for the *Israel Marine Plan*. These will be based on the best available knowledge and



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international experience in regional and national marine planning, with attention to the unique characteristics of Israel's marine space.

In parallel, work on Stage C – preparation of alternative policy scenarios – will also begin. Subsequent stages will include development of a preferred alternative, with the later stages of the process consisting of preparation of recommendations and guidelines for implementation and monitoring of the plan (see the Gantt chart – Table 1). Simultaneously and throughout the various stages of the work, the GIS application for planning, cooperation, and management will be developed. The plan's internet site will be enhanced with attention to providing updates for the general public regarding the *Israel Marine Plan* work.

Work Stages	2014				2015			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Preliminary work								
A – Data Collection and Analysis								
B – Definition of Vision, Goals, and Objectives								
C – Policy Alternatives								
D – Development of Selected Alternative								
E – Preparation of Marine Spatial Plan								
F – Recommendations for Implementation and Monitoring								
G – Development of Monitoring Guidelines								

The progressive stages involved in preparing the *Israel Marine Plan* and their delivery dates