The Society for the Protection of Nature in Israel
Educate. Love. Protect.

The Necessity of Completing the Fisheries Reform in the Israeli Mediterranean

Environmental, Economic and Regulatory Aspects

Society for the Protection of Nature in Israel (SPNI)[1] Position Paper

Alon Rothschild | June 2020

Photo: Shani Alush

1. The Society for the Protection of Nature in Israel (SPNI) is Israel's leading environmental NGO. Established in 1953, SPNI works to protect Israel's biodiversity through research, advocacy, land use planning, education, lobbying and environmental activism. SPNI is IUCN member and Birdlife International affiliate. ***"The Blue Half" is SPNI's marine program*** https://mafish.org.il/english/

1. Background

Fishing in the Mediterranean Sea contributes only a negligible percent of the fish reaching Israeli markets (Figure 1). Nevertheless, its ecological footprint and negative impact on the marine environment are dramatic, both regarding the extent of the affected area and the intensity of the damage to the environment.

For many years, fishing in the Israeli Mediterranean (Figure 2) was unregulated and based on an out-of-date fishing ordinance (1937), and deficient fishing regulations. Regulation was unrestricted with almost no limits on where and when to fish, catch size or type of fishing gear allowed. In effect, there was no fisheries management, non-selective and destructive fishing practices abounded and almost no marine reserves that could allow fish populations to recover were declared. At the same time, the few limitations the law did impose were practically not enforced. The resulting damage was threefold[2]:

Environmental:

Overfishing, deterioration of the marine ecosystem, transforming rocky reefs into a marine desert and continuous destructive plowing of the soft bottom. An estimated 3,000 sea turtles are hurt by fishing every year[3] as well as tens of thousands of other protected marine species (corals, sharks, rays and others) (Figure 3). Massive fishing of juvenile fishes occurs both in bottom trawling[4] (figure 4) and in artisanal fishing[5] (for example, up to 80% of Grouper catch are juveniles).

Economic:

The continuous damage to juvenile fishes, fish breeding and population recovery has impacted the economy. The damage resulting from bottom trawling is estimated at about 860 million NIS (calculated for 20 years, capitalized to 2013 values[6]).

Employment and social effects:

Depletion of fish stocks due to overfishing has affected fishermen's catch. This, and competition with bottom trawlers for fish stocks, has affected artisanal fishing (traditional commercial fishing with trammel nets and bottom longline gear). In addition, other processes related to changes in fish consumption and import patterns together with a significant rise in the scope of recreational fishing play a role as well. Thus, the catch per unit effort in artisanal fishing has declined sharply, and **over 80% of permit holders do not live off fishing on a regular basis[7].**

2. Rothschild et al. 2014. Let's stop cutting the branch we are sitting on – necessary reforms for managing fishing in the Mediterranean. Ecology and Environment 5 (1): 98-105. (In Hebrew.)
3. Levy, Y. et al. 2015. A small fishery with a high impact on sea turtle populations in the eastern Mediterranean. Zool. Middle East 61:300-317.
4. Spanier E, Edelist D, Golany D. 2013. Ecological indicators for overfishing in Israel's trawl fishery. Submitted to the ministry of environment. (In Hebrew.)
5. Belmaker, J. 2018. Quantifying the ecological and economic impact of bycatch from artisanal fishing and means to reduce it by increasing net selectivity. Research report no. 891-0282-15 submitted to the Chief Scientist, Israel Ministry of Agriculture. (In Hebrew.)
6. TASC consulting. 2013. Economic analysis for the Israeli fisheries reform in the Mediterranean. SPNI (In Hebrew).
7. Belmaker, J. 2018. Quantifying the ecological and economic impact of bycatch from artisanal fishing and means to reduce it by increasing net selectivity. Research report no. 891-0282-15 submitted to the Chief Scientist, Israel Ministry of Agriculture. (In Hebrew)

2. The Fisheries Reform

In 2012, the Society for the Protection of Nature in Israel (SPNI) began promoting a fisheries reform in the Israeli Mediterranean Sea. The project involved a joint think-tank with a number of government ministries (Agriculture, Environmental Protection and Finance) and the Israel Nature and Parks Authority, and included gathering professional and scientific material[8], and intensive stakeholder engagement. The reform was eventually promoted with the help of a number of appeals to the Israel High Court of Justice and a public campaign.
The reform's main achievements included:

a. Establishing the authority of the Chief Fisheries Officer to determine catch, gear, spatial and temporal restrictions on fishing in the framework of annual **fishing permit renewals** (2015-2016).

b. New fishing **regulations** (2016), which instituted, for the first time, **sustainable fisheries management**:

- When to fish?
  - Banning artisanal and recreational fishing during the breeding season for 60-90 days.
  - Banning bottom trawling during the juvenile recruitment season for up to 90 days.

- Where to fish?
  - Banning bottom trawling on 40% of the sea area (shallow water, rocky areas and the northern part of Israeli waters) while compensating fishermen with about 20 million NIS as a "buy-out" scheme for bottom trawlers.
  - Banning purse seine fishing in shallow water, less than 500 meters from the coast.

- How to fish?
  - Banning spear fishing with scuba diving gear.
  - Increasing the mesh size of nets.
  - Doubling minimum catch size for groupers.

- How much to fish?
  - Setting a daily catch quota ("Bag limit") for recreational fishing (to prevent damage to fish and to commercial catches, because the scope of recreational fishing has increased and is similar to commercial artisanal fishing).

c. Reassigning responsibility for enforcement to a new marine unit in the INPA (2018).

8. Rothschild, A. 2015. The Fisheries Management Reform of in the Mediterranean Sea. SPNI (In Hebrew).

3. The current challenge in managing fisheries in the Mediterranean – completing the reform

The Mediterranean Sea still suffers from destructive fishing. In face of additional environmental challenges that cannot be controlled (climate change and invasive species), the need to carefully manage what we can – fishing and marine infrastructures – is even more critical.

Unfortunately, however, fisheries management as implemented by the Fishing Department in the Ministry of Agriculture still lacks any methodical strategy or scientific basis for decision-making. Occasionally, as a response to pressure from fishermen, the Fishing and Aquaculture unit does not fulfill its full mandate by the regulations, such as preventing fishing during the breeding season and the like. For example, despite the fact that the new regulations set a 60-90 day breeding season fishing ban, in the last four years, the Fishing Department has set the ban for only 30 days each year. As a result, **the sensitive marine environment suffers, but more than that, the future of Israel's fisheries is affected**, as it is dependent on a long-term healthy, stable marine environment. Moreover, **major steps that were taken, such as a buy-out scheme for bottom trawlers – were not completed**, despite their benefit to the environment, the economy and the fishing industry (the reform included a buy-out scheme of only half of the bottom trawling fleet). The Fishing Department also regularly opposes the establishment of no take MPA's.

The table below summarizes current issues in fisheries management in the Israeli Mediterranean for which the Ministry of Agriculture is responsible, and proposed solutions:

The Society for the Protection of Nature in Israel
Educate. Love. Protect.

Completing the fisheries reform: Problems and solutions

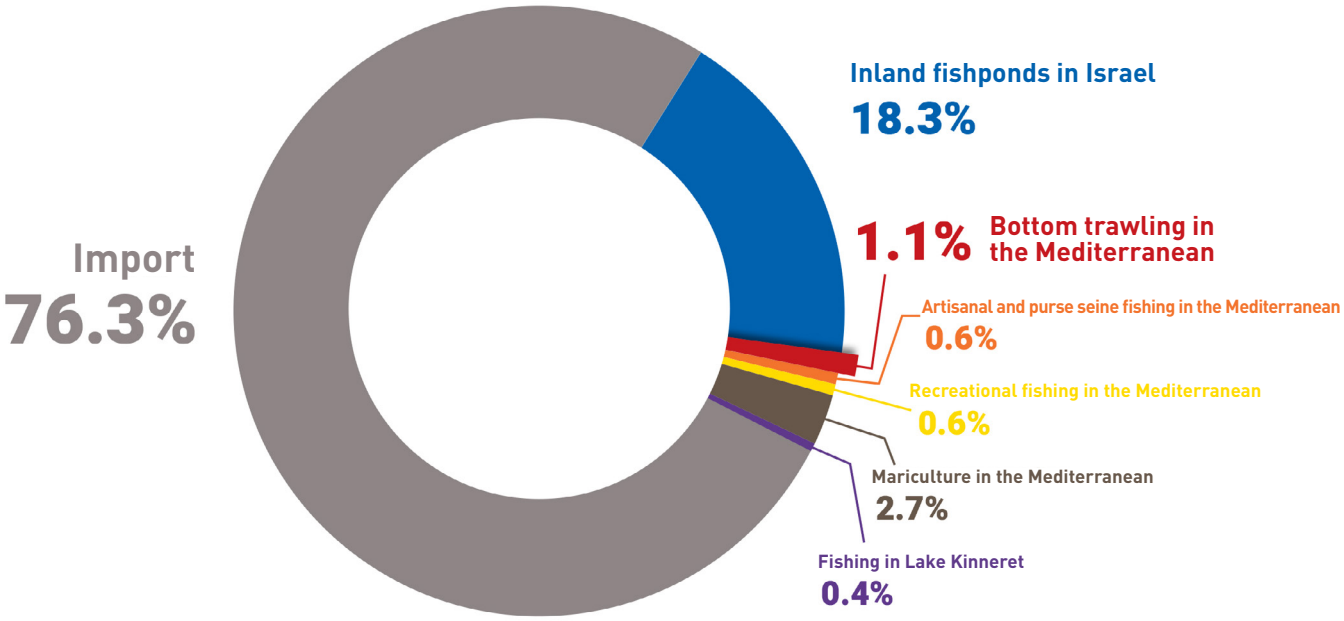
Issue	Problem	Proposed solution
Bottom trawling – a detrimental fishing method.	This is the most destructive, damaging type of fishing. Over 70% of the catch in Israel is composed of juvenile fishes, which have no commercial value (Figure 4), and of protected species. The method is extremely damaging to the sea bottom. There are currently 16 trawlers that fish over about 60% of the sea area, harming the environment, as well as most other fishermen in Israel (because of the effect on fish population renewal and damage by trawling on potential artisanal fishing sites) and even jeopardizing essential infrastructure such as gas pipelines.	The Marine Spatial Plan for Israel's Mediterranean Waters published by the Planning Administration and adopted by the Committee for the Protection of the Coastal Environment (CPCE) (2019) determined that bottom trawling must be reduced and eventually eliminated because of its environmental consequences and because it is not feasible in light of the reduction of available marine areas (Figure 5). It is therefore necessary: • **To allocate about 30 million NIS** to establish a voluntary buy-out of all bottom trawlers. • At the same time, **fuel subsidies for bottom trawling should be eliminated and mandatory VMS systems (vessel monitoring systems) should be installed**, as Israel is required by to GFCM guidelines. There is currently a proposal for legislation regarding VMS that is supported by Israel's Ministry of Energy and we request the support of the Minister of Agriculture in promoting the law.
Damage to fish population renewal – short seasonal fishing moratoriums are ineffective	Fishing moratoriums during the adult fish breeding season and the juvenile recruitment season are a basic component in sustainable fisheries management. An expert report recommended a comprehensive fishing moratorium for 120 days during the reproductive season, and a bottom-trawling moratorium for 150 days. In recent years the chief fisheries officer has abused the exclusion clause in the fishing regulations, and in fact allowed extensive fishing during these seasons, impacting fish population renewal. In 2020: • Only 32 days of the reproductive seasons were completely closed for fishing (regulations allow 60-90 days). • The recruitment season was set for only 60 days (although regulations allow for up to 90 days).	**1.** The fisheries officer should be instructed to determine total seasonal fishing moratoriums according to the fishing regulations, with **no exclusions allowing fishing during these seasons**, as these exclusions severely impact the fish populations, even when some of the catch is returned to the sea. **2.** Moreover, **fishing moratoria should be started earlier** in order to correspond to the earlier start of the breeding season due to **climate change, and to include the entire April-June period in order to protect the breeding of both commercial species and protected species such as sea turtles and guitarfish**.

Issue	Problem	Proposed solution
Science-based fisheries management	Decisions concerning fisheries currently lack **a sufficient scientific basis, are made without involving environmental agencies and totally disregard the goal of fisheries management** – preserving fish resources (as determined in the Bilu ruling, 2016). The Fishing Department does not publish annual monitoring reports. In recent years, there is some monitoring, (which is not published), but its methodology is problematic and does not accurately reflect the state of the fish stocks or the environmental parameters of the fishing industry.	To promote two basic tools that will enable Science-based decision-making: **1.** Establishing an **expert advisory committee** to work with the fisheries officer, according to the Maritime Policy Paper (2019). **2.** Budgeting an **annual program to monitor fish stocks** as a basis for decision-making.
Support for promoting artificial reefs	Artificial reefs can potentially help increase the profitability of commercial artisanal fishermen, particularly in areas with extensive spatial fishing limitations (military areas, infrastructure, mariculture, etc.).	To promote a joint venture, as part of the Planning Administration's blue growth project for developing a ca. 1.6 million NIS pilot artificial reef for increasing the amount of fish.
Support for marine nature reserves	In recent years, the Chief Fisheries Officer opposed the promotion of marine reserves as no-take areas, in which fishing is banned. Thus, the officer objected to the 'Rosh Carmel' and 'Yam Evtah' reserves, both of which were declared no fishing reserves in the Maritime Policy for Israel's Mediterranean Waters. The SPNI and Haifa University submitted a proposal for a fisheries restricted area (FRA) at the Palmahim Disturbance site, to the GFCM. We request the **support of the Ministry of Agriculture** for this proposal, which is intended to protect rare benthic habitats (VME's) and the spawning grounds of Bluefin Tuna.	No-take marine reserves play an essential role in fishery restoration as well as supporting fishermen's livelihood, as they contribute to improving the quantity and quality of the catch outside the reserve. **The fisheries officer should promote the declaration of marine reserves as no take zones**, according to the Maritime Policy Paper.

Issue	Problem	Proposed solution
Protection for the Dusky Grouper	The Dusky Grouper (as other grouper species) is a key species, whose **presence in large numbers** is essential for the health of the rocky reef ecosystem. In the absence of such predators that are overfished, rocky reefs become marine deserts. The Dusky Grouper is categorized as a vulnerable species (VU) by the IUCN. The Israel Ministry of Agriculture opposes the protection of the Dusky Grouper, even though it comprises only 2% of commercial fish catch in Israel.	The **support of the Ministry of Agriculture is requested for declaring the Dusky Grouper a protected natural asset.** The matter is currently being reviewed by the Israel High Court of Justice – case 2036/20, the SPNI vs. the Minister for Environmental Protection.
Fishing regulation in the EEZ	Currently the Fisheries Ordinance does not apply in the EEZ, therefore the State of Israel does not have the tools to manage fisheries in this zone.	It is necessary to promote the "Marine Zone Law" that will, among other things, implement the ordinance in the exclusive economic zone as well.

The Society for the Protection of Nature in Israel
Educate. Love. Protect.

Figure 1: Fish consumption in Israel, 2017



Sources of consumed fish in Israel (2017). Source – Ministry of Agriculture, 2017.

Figure 2: Israeli fishing fleet in the Mediterranean sea. Note the unequal catch distribution between the various types of fishing, and the high percentage of discards in bottom trawling.

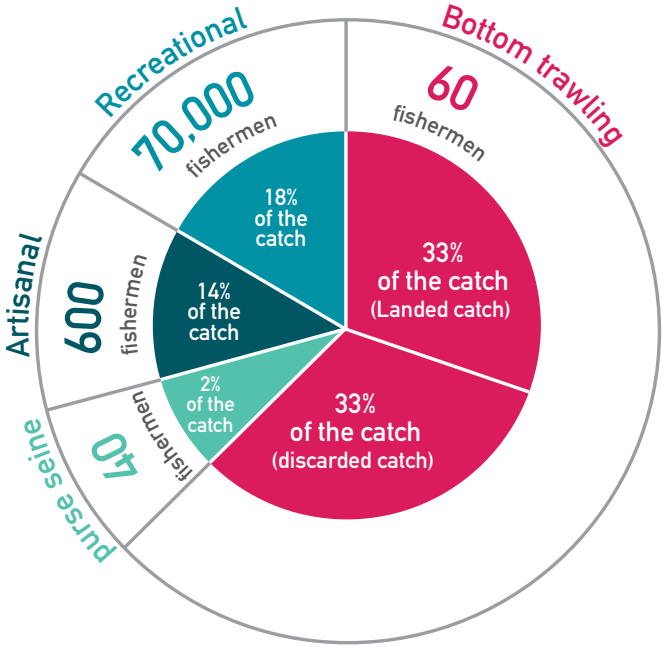


Figure 3: Impact of fishing on the marine environment

Sarpa salpa caught in a net | Photo: Andrei Aharonov.

Caranx crysos caught in a net | Photo: Andrei Aharonov.

Tursiops truncates enmeshed in a net and washed ashore | Photo: INPA Marine Unit.

Grouper and Diplodus caught in a net | Photo: Andrei Aharonov.

A Grouper caught in a ghost net | Photo: out of the blu diving center.

A sea turtle caught in a ghost net | Photo: Eyal Miler.

Figure 4: Distribution of bottom trawling catch in Israel – most is discarded or illegal. In Rothschild, 2018.

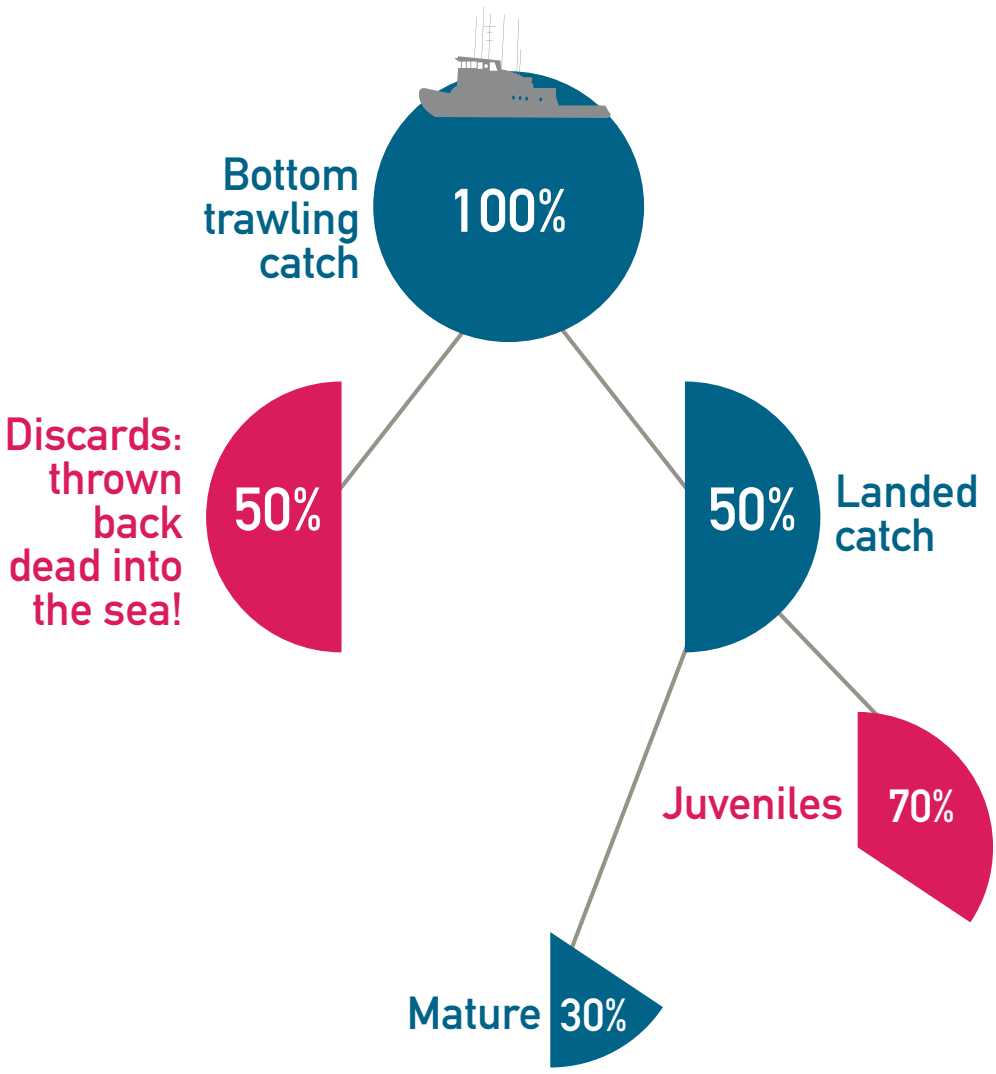
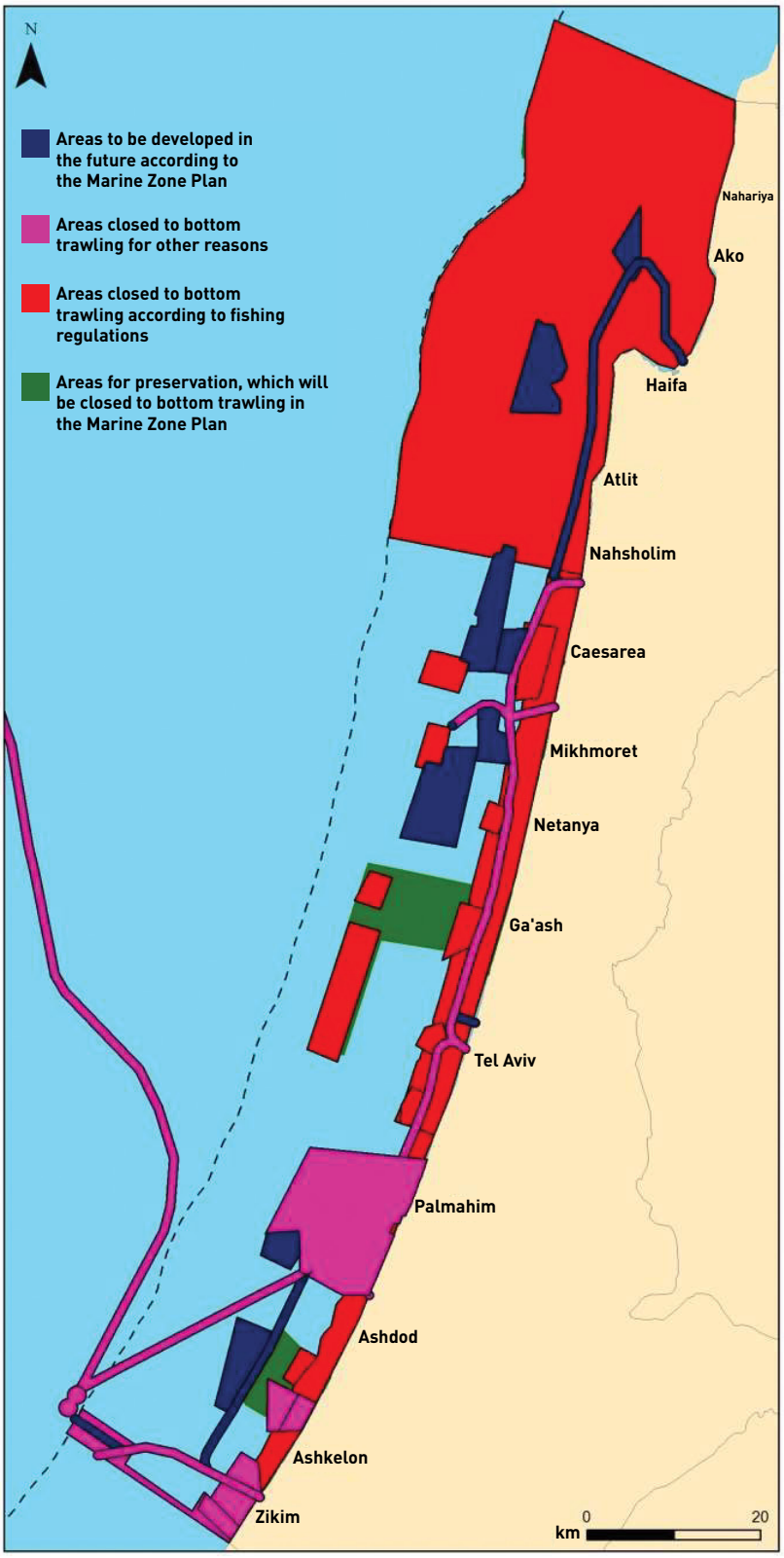


Figure 5: Areas currently closed to bottom trawling and areas expected to be closed to bottom trawling when the Marine Spatial Plan is implemented.




The Society for the
Protection of Nature in Israel
Educate. Love. Protect.
חיי הבחזל
הרפורמה להצלת הים התיכון