



Activity Report 2019

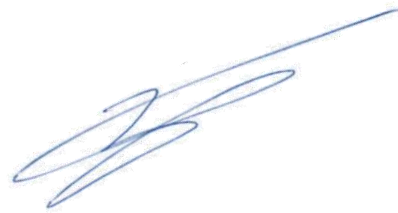
iSea,
Environmental Organisation
for the Preservation of the
Aquatic Ecosystems

Thessaloniki 2020

This document is in consistence of iSea, Environmental Organisation duties and obligations under the internal framework of actions of the Organisation

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Revised by all partners of iSea



And signed by the Legal Representative of iSea: **Periklis Kleitou**

ABOUT

iSea is a Not for Profit Non-Governmental Organisation founded in March 2016, in Greece, with the aim to preserve, protect and restore the precious heritage of the aquatic environment. The organisation consists of a team of young, but experienced scientists and professionals of various disciplines from marine biologists to specialists in environmental management and educators. The organisation strives to shed light on the foremost issues affecting our oceans and propose alternatives for a sustainable future. Its activities focus on 4 main pillars: fisheries, invasive and alien species, human and aquatic ecosystems and marine litter. The tools utilized by iSea vary from scientific research to citizen science and environmental education and awareness. In the context of all its activities and projects, iSea has developed several collaborations with various entities both nationally and internationally.

2019 OVERVIEW

2019 was an important year for iSea. The organisation managed to expand its activities, increase significantly the personnel, improve its facilities and consequently contribute meaningfully in the preservation of the aquatic ecosystems in Greece.

Collaborations

The network of collaborators expanded significantly both within Greece and internationally. Significant additions in the network of collaborators are the University of Catania, Florida International University, Virginia Tech and Shark Trust, while within Greece iSea managed to strengthen its collaboration with HCMR, the University of Patras and MEDASSET. Is important to mention that in the context of our beach cleanup campaign PROSFERO, iSea connected with almost 20 local NGOs and volunteering groups in different regions, but also we must highlight the help of ARCHELON The Sea Turtle Protection Society of Greece in Crete and Zakynthos.



Figure 1 National and international collaborations

Funders

In 2019, iSea maintained the main funders of the organisation for 2018 and at the same time managed to expand the funder's basis with 4 additional funders which contributed more than 30% of the total budget. The diversification of the funders gives more stability to the organisation and less dependence on alternative fund sources.



Figure 2 Significant funders

Infrastructures

In 2019, iSea improved its infrastructures and expanded its equipment. The headquarters of the organisation are now fully equipped, providing a safe and pleasant working environment. The organisation is lined with the General Data Protection Regulation requirements and has a backup server where all the databases and the internal documents are stored.

2019 Additions in the equipment of iSea

- DJI MAVIC 2 ZOOM drone
- Canon EOS 2000D with two different lenses
- GOPOLE DOME PRO
- Dell Latitude E6430
- TurboX Led TV TXV-4354
- General Electric AirConditioning
- Arrieli Freezer ACF-129CN

Students-Internships

This year iSea hosted a student from Belgium for an internship of two weeks. The student was involved in the project Monitoring Elasmobranch Fisheries and Trade in the North Aegean. Since September 2019, a student of the University of Patra started his BSc Thesis in collaboration with iSea on alien species, while another student from the University of Essex will visit iSea in 2020 in the context of his internship. Last, the University of Essex asked iSea to provide information about internships positions for 2020.

Volunteers

iSea numbers more than 20 trained volunteers who are actively involved in the organisation, constantly represent iSea in different activities throughout Greece and contribute to different projects. Even though, individuals from different areas of Greece voluntarily participated in different activities and projects of iSea, core teams of volunteers exist in Athens, Thessaloniki and Crete with members participating in iSea

activities at every region and representing the organisation in local events and activities. In addition, almost 30 individuals are voluntarily involved in the validation and the management of the data collected through citizen science projects. The number of volunteers who attended beach cleanups in 2019 is around 2000. Most of the volunteers are university students expressing a high interest in environmental issues and the marine environment in particular. Many of them have also basic corresponding knowledge due to their relevant studies and significant part consists of extensive marine users.

Social Media

The social media networks of the organisation grew significantly in 2019.

- **Facebook:** from 6573 followers in 2018 to >11.000 followers in 2019 with an average of 150.000 reach per month
- **Instagram:** 944 followers with an average of 2000 reach per month
- **Twitter:** 446 followers with an average of 13.500 reach per month

Other significant information:

- **Is it Alien to you? Share it!!! Facebook Group:** 10300 members with an average of 9000 active members on monthly basis
- **Shark and Rays in Greece and Cyprus Facebook Group:** 2134 members with an average of 1747 active members on monthly basis

Scientific publications and Conferences

For 2019 iSea produced 14 scientific publications in peer-reviewed journals, participated in 2 conferences presenting 5 communications with oral presentations and posters and iSea members were invited in 5 national and international meetings. Scientific publications can be found in the reports' chapter. All the conferences and meetings attended by iSea can be found below:

- COST Alien-CSI Action Management Committee meeting and Working Group activities. 25-28 February 2019 Akrotiri, Cyprus.
- Scientific Advisory Committee on Fisheries (SAC) Subregional Committee for the Eastern Mediterranean (SRC-EM) FAO HQ, 18 – 19 March 2019 Rome, Italy.
- Workshop for the Mediterranean Angel Sharks: Regional Action Plan, Tunis 25-27 March 2019.
- 14th International Congress on the Zoogeography and Ecology of Greece and Adjacent Regions (ICZEGAR). 27 – 30 June 2019, Thessaloniki, Greece.
- 23th Annual Conference, European Elasmobranch Association. 16-18 October 2019, Calabria, Italy
- INVALIDIS, 1st Regional Meeting, 29 October 2019, Athens, Greece.
- Mediterranean Shark and Ray Conservation Meeting, IUCN Centre for Mediterranean Cooperation, 4-7 November 2019 in Palma de Mallorca, Spain.

Beneficiaries

Estimated number of people, stakeholders, and other involved individuals that were benefited from iSea's activities: 500,000.

FISHERIES

Fisheries sector is an important professional activity for Greek coastal communities and although its contribution to the national GDP is quite low, it is considered extremely valuable for the cohesion of especially remote, or isolated insular and coastal communities. Despite the limited scientific data, the majority of the Mediterranean fish stocks (including the stocks found in Greek waters) are in poor condition. In order to tackle this problem urgent measures are required to restore stocks to a healthy status. In iSea we recognize the value and importance of the fisheries sector for Greece and our target is to collaborate with scientific institutions and contribute to reinforcing public opinion on the need to take appropriate measures for the conservation and protection of the marine environment and its elements, including fish, which represents an important resource for the country. As an organisation we have a special focus on elasmobranchs, an extremely threatened group of marine organisms that possesses a unique position in marine food webs. Due to their pivotal role, elasmobranchs can act as umbrella species for the marine protection. Therefore, the majority of our activities in this pillar focus on advancing elasmobranchs' conservation in Greece.

Running projects

Sharks and Rays in Greece and Cyprus

This citizen science project is part of a Mediterranean initiative, M.E.C.O. (Mediterranean Elasmobranchs Citizen Observations), which aims to create a network of Mediterranean elasmobranch sightings data, through collaboration between different teams in various countries, to better understand the occurrence, seasonality and distribution of elasmobranchs in this region. In 2019, there were about 300 new validated observations in Greece and Cyprus.

For more: <http://bit.ly/33Qgz6J>

HEXMED Project

SUBMON in collaboration with iSea has joined a team of researchers from 11 Mediterranean countries, that has set up a regional initiative to compile information about the population trend of Bluntnose Sixgill Shark relying on local ecological knowledge using questionnaires. Since June 2019, we have conducted more than 40 questionnaires to artisanal and bottom trawl fishers.

For more: <http://bit.ly/31x6FFP>

Elasmobranch fisheries and trade in North Aegean

This project aims at monitoring the landings and the marketed products of elasmobranchs in the four major ports of the North Aegean Sea, which is considered a hotspot for elasmobranchs in the Greek seas. The project foresees the following actions:

- Visits in the auction markets of Michaniona (Thessaloniki), Kavala and Alexandroupoli and the landing port of Volos for performing Rapid Fishery Assessment on elasmobranch landings. Visits take place once per month between January 2019-December 2019
- Visits in the fish markets of Volos, Thessaloniki, Kavala and Alexandroupoli. During the visits (i) samples of elasmobranch products are collected and (ii) interviews with fishmongers and consumers are conducted. Visits take place once per month between January 2019-December 2019

Since January we have collected more than 450 species specific records from auction markets, landing sites and fish markets, accompanied with more than 200 DNA samples. Furthermore, we collected 63 samples for heavy metals, PCBs and microplastics. Finally, we conducted about 100 questionnaires to fishers and consumers for understanding the market incentives.

In addition, in the context of the project we collaborate with other initiatives in the Mediterranean.

1. Specific morphometric measurements, DNA samples and stomachs are collected for *Dasyatis sp.* individuals, that will be analysed by the University of Haifa to correct the GenBank Database which includes mistakes between species.

2. Specific morphometric measurements and DNA samples are collected for *Mustelus mustelus* and *Mustelus punctulatus* supporting a project of the University of Padova that aims at developing a protocol for identifying the two species visually.

3. DNA samples are collected for *Torpedo sp.* for supporting an initiative of LAMNA Org. that suspects a new alien (cryptic) *Torpedo* species is established in the Mediterranean.

We also provided images and measurements of *Raja radula* individuals to IUCN Shark Specialist Group for testing an image software that aims at developing an automatic identification procedure for *Raja sp.* in the Mediterranean.

For more: <http://bit.ly/32XrlbG>

Elasmobranchs in Libya

Libya is listed as a top priority country for conservation actions related to elasmobranchs due to the low conservation likelihood and yet high fisheries pressure (Dulvy et al., 2017). Together with Marine Biology Libya we utilized social media to detect illegal trade and fishing. About 78% of species observed were EN or CR. 10% were *S. squatina*, 10% *R. rhinobatos* and 14% *G. cemiculus*. As a next step we will focus on visiting ports for collecting questionnaires and monitor the landings using the new FAO guidelines for data collection.

Concluded projects

Fishermen, Sea turtles and Sharks: Alliance for Survival

The aim of the project was to study and mitigate the impacts of bycatch and ghostfishing on the sea turtle and shark populations in Greece, through awareness, capacity building and cooperation with stakeholders in the fisheries sector. The project focused on 5 important ports of Greece, which cover a major part of the country's fishing activity. Besides, fishing activity in the wider area of these ports coincides with 5 significantly protected areas that are under high pressure and need to be studied and conserved. In total 5 workshops for fishers and competent authorities conducted, 90 questionnaires were collected about shark bycatch and a paper is under revision. In the context of the project the SEAlly© Application performed, a citizen science tool, which allows fishers, port authorities, divers and all sea lovers to record sea turtle and/or shark sightings in the Mediterranean Sea. In 2019 we had more than 10 species specific new observations in the app.

For more: <http://bit.ly/32C5w0Z>

Action Plans

Angel Shark Conservation Action Plan for the Mediterranean

The Mediterranean is a risky place to be a shark. At least 50% of rays and 54% of sharks in this region face an elevated risk of extinction, including the three species of angel sharks. While measures do exist for the management of these species under the General Fisheries Commission for the Mediterranean (GFCM), not all are implemented. Brought together by the Shark Trust and the IUCN Shark Specialist Group (SSG), we participated in the meeting for drafting the action plan, the first initiative to develop the roadmap to restore these enigmatic species to robust populations in the region. Drawing on a wealth of knowledge, existing experience of the Angel Shark Conservation Network partners, and with a commitment to work together for these species as a priority, participants started to develop a concrete set of actions.

For more: <https://www.sharktrust.org/news/initiative-launched-to-avert-crisis-for-critically-endangered-mediterranean-angel-sharks>

Angel Shark Sub-regional Action Plans for GSA 20, 22, 23 and 25

Following the initiative for the conservation of the Angel Sharks in the Mediterranean, sub-regional action plans will be also developed by The Shark Trust in collaboration with local partners. iSea will lead the drafting of the sub-regional action plans for GSA 20, 22, 23 and 25.

Materials

- A Webpage produced including all the shark species found in Greece with information about their legal status, their biology and ecology. For more: <http://bit.ly/2p2ePst>
- The fisheries' Advisories about sharks and rays of The Shark Trust translated in Greek. We manage to distribute them in the coast guard offices of Cyclades Islands and in several other offices around Greece. For more: <https://www.sharktrust.org/greek>

Press releases

2019

- Joint Press Release on the recent unfortunate incident of nine Giant devil rays landed in Tunisia

2018

- Joint Statement on the 30 Giant devil ray landing in Izmir, Turkey
- Update of the Sharks and Rays Identification Guide by the Greek General Directorate for Sustainable Fisheries

2017

- Statement on the recurring incidents of shark fishing and their display in Greece

Outreach

In total, 5 original articles were produced in the national Greek press resulting in more than 100 articles in other media.

- Τα μισά είδη καρχαριών της Μεσογείου απειλούνται με εξαφάνιση
- Αλιεύσιμοι οι επτακαρχαρίες και οι εξακαρχαρίες, παρότι προστατευόμενα είδη
- Κρήτη: Ψαράδες στο Καστέλι Κισσάμου έπιασαν αγριοκαρχαρία του οποίου η αλίευση απαγορεύεται
- Το είδος Λάμια αν και καρχαρίας υπό προστασία συγκαταλέγεται παρανόμως σε φυλλάδιο αλιευμάτων
- Νέα Αγχίαλος Μαγνησίας: Ψάρεμα καρχαρία Αλεπού του οποίου η αλίευση απαγορεύεται αλλά όχι η πώληση του κρεατός του

Publications

2019

- Givos, I., Maximidi, M., Bakou, R., Naasan Aga-Spyridopoulou, R., Kleitou, P. First record of milk shark *Rhizoprionodon acutus* (Rüppel, 1837) in Cyprus. *Marine Biodiversity* (SUBMITTED)
- Lapinski, M., Givos, I. (2019). New records of the critically endangered *Squatina squatina* (Linnaeus, 1758) from Corsica, France. *ACTA Adriatica* (ACCEPTED)
- Givos, I., Arculeo, M., Doumpas, N., Katsada, D., Mitsou, E., Naasan Aga-Spyridopoulou, R., Stoilas, V.O., Tiralongo, F., Tsamadias, I., Vecchioni, L., Moutopoulos, D.K. (IN PRESS). Assessing multiple sources of data to detect illegal fishing, trade and mislabelling of elasmobranchs in Greek markets. *Marine Policy*
- Givos, I., Stoilas, V.S., Al Mabruk, S.A.A., Doumpas, N., Marakis, P., Maximidi, M., Moutopoulos, M., Kleitou, P., Keramidas, I., Tiralongo, F., de Maddalena, A. (2019). Integrating local ecological knowledge, citizen science and long-term historical data for endangered species conservation: New records of Angel Sharks (Chondrichthyes: Squatinidae) in the Mediterranean Sea. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 29(6): 881-890.
- Keramidas, I., Ugarkovic, P., De Madalenna, A., Givos, I. (2019). Additional record of *Lamna nasus* (Bonnaterre, 1788) from Croatia, Adriatic Sea. *Journal of the Black Sea/Mediterranean Environment*, 25(1): 87-92.

2018

- Bakiu, R., Cakalli, M., Giovos, I. (2018). The first record of bigeyed sixgill shark, *Hexanchus nakamurai* Teng, 1962 in Albanian waters. *Journal of the Black Sea/ Mediterranean Environment*, 24(1): 74-79.
- Chatzisprou, A., Aroni, M., Lefkadiou, E., Kapiris, K., Giovos, I., Anastasopoulou, A. (2018). Some biological information on a female kitefin shark, *Dalatias licha* (Bonaterre, 1788) stranded in the Laconikos gulf of Greece (SE Ionian Sea). *Turkish Journal of Fisheries & Aquatic Science*. 19(12): 1069-1072.
- Giovos, I., Chatzisprou, A., Doumpas N., Stoilas, V.S., Moutopoulos D.K. (2018). Using unconventional sources of information for identifying critical areas for the endangered guitarfish in Greece. *Journal of the Black Sea/ Mediterranean Environment*, 24(1): 38-50.

2017

- Giovos, I., Cakalli, M. (2017). The first record of the Bigeye Thresher *Alopias superciliosus* in Albanian waters. In *Collective A: Mediterranean Marine Science 2017* (Stamouli et al.). *Mediterranean Marine Science*, 18(3): 534-556.
- Kleitou, P., Antoniou, C., Giovos, I., Kletou, D. (2017). How accurately are we describing the longline bycatch? The case of the 'rare' shark *Alopias superciliosus* in eastern Mediterranean. *International Journal of Fisheries and Aquatic Studies* 2017, 5(3): 375-378.

Conferences and Meetings

2019

- Giovos I., Naasan Aga, R., Doumpas, N., Moutopoulos, D. (2019). Elasmobranch fisheries and trade in the North Aegean. IUCN Mediterranean Shark and Ray Conservation Meeting, Palma de Mallorca 4-7 November 2019.
- Nuez Rodriguez, I., Giovos I., Ćetković, I., Bakiu, R., Barash, A. (2019). THE HEXMED INITIATIVE: a fruitful collaboration of countries to work on a single shark species: the bluntnose sixgill shark (*Hexanchus griseus*). IUCN Mediterranean Shark and Ray Conservation Meeting, Palma de Mallorca 4-7 November 2019.
- Barbato, M., ..., Mazzoldi, C. (2019). Reconstructing past and present behaviours, occurrence and seasonality of elasmobranch species through the recovery of local ecological knowledge. 23th Annual Conference, European Elasmobranch Association, Rende 16-18 October 2019.
- Giovos I., Doumpas, N., Loukovitis, D., Naasan Aga, R., Romanidis-Kyriakidis, G., Tiralongo, F., Moutopoulos, D. (2019). Elasmobranch fisheries and trade in North Aegean: Six months of systematic monitoring. 23th Annual Conference, European Elasmobranch Association, Rende 16-18 October 2019.
- Al-Mabruk, S.A.A., Rizgalla, J., Giovos, I. (2019). Preliminary evidences of illegal elasmobranch fishing in Libya. 23th Annual Conference, European Elasmobranch Association, Rende 16-18 October 2019.
- Al-Mabruk, S.A.A., Giovos, I. (2019). Citizen Science and Social Media as a tool for monitoring Angel Sharks in the Mediterranean. Workshop for the Mediterranean Angel Sharks: Regional Action Plan, Tunis 25-27 March 2019.
- Naasan Aga, R., Giovos, I., Kleitou, P., Christidis, A., Lanjeneck, J., Kalogirou, S. (2019). Preliminary results on the distribution extension of five data-limited fish species in the eastern Mediterranean Sea. 14th ICZEGAR, Thessaloniki, 27-30 June 2019.
- Naasan Aga, R., Doumpas, N., Romanidis-Kyriakidis, G., Giovos I. (2019). Occurrences and illegal trade of the critically endangered spiny butterfly ray in Greece. 14th ICZEGAR, Thessaloniki, 27-30 June 2019.
- Theodorou, I., Giovos, I., Moutopoulos, I. (2019). Angel Sharks (Chondrichthyes: Squatinidae) in the Mediterranean Sea. Scientific Advisory Committee on Fisheries (SAC) Subregional Committee for the Eastern Mediterranean (SRC-EM) FAO HQ, Rome, (Italy), 18 – 19 March 2019.

2018

- Barash, A., Salingre, S., Grosmark, Y., Rothman, S., Stoilas, V.S., Maximiadi, M., Tuncer, S., Lapinski, M., Nuez, I., Bakiu, R., Kleitou, P., Giovos, I. (2018). The MECO project (Mediterranean Elasmobranch Citizen

Observations): creating a large-scale database of elasmobranchs observations using social media. 22nd Annual European Elasmobranch Association Meeting, Peniche, Portugal.

•Chatzisprou, A., Anastasopoulou, A. (2018). A Devil not so evil: new data from a female *Mobula mobular* (Bonnaterre, 1788) caught in Greece. 22nd Annual European Elasmobranch Association Meeting, Peniche, Portugal.

•Keramidas, I., Azrieli, B., Kleitou, P., Maximidi, M., Stoilas, V.S., Giovos, I. (2018). Guitarfishes in Cyprus: shedding light on the occurrence and the distribution of two endangered species in the Eastern Mediterranean. MARFRESH 2018, First International Marine & Freshwater Sciences Symposium, Antalya, Turkey.

•Touloupaki, E., Doumpas, N., Bouziotis, D., Giovos, I. (2018). Fishers, Sea turtles and Sharks: Alliance for Survival. 6th Mediterranean Conference on Marine Turtle, Porec, Croatia.

•Touloupaki, E., Doumpas, N., Bouziotis, D., Giovos, I. (2018). Fishers, Sea turtles and Sharks: Alliance for Survival. 22nd Annual European Elasmobranch Association Meeting, Peniche, Portugal.

•Touloupaki, E., Doumpas, N., Bouziotis, D., Giovos, I. (2018). Fishers, Sea turtles and Sharks: Alliance for Survival. 23rd International Congress on Applied Ichthyology and Aquatic Environment, Volos, Greece.

2017

•Barash, A., Shallingre, S., Kleitou, P., Stoilas, V.O., Giovos, I. (2017). A collaboration for mapping the Mediterranean's elasmobranchs by public participation through social media. 21st European Elasmobranch Association Scientific Conference 12-14 October Amsterdam, the Netherlands.

Newsletters

2019

•Gasteratos, I., Gordon, C., Giovos, I. (2019). Historical record of *Squatina sp.* from Corfu.

Internships-Thesis

For 2019 iSea host 1 student from the University of Louvain for conducting her practice participating in our project Elasmobranch fisheries and trade in North Aegean. In addition, based on the data collected in the context of our project Sharks and Rays in Greece and Cyprus a student will perform her BSc Thesis in the University of the Aegean on the distribution of elasmobranchs in the Aegean Sea. Last, 2 students from the University of Patras, will perform their BSc Thesis by replicating the methodology developed in our project Elasmobranch fisheries and trade in North Aegean in the auction markets of Keratsini (Athens) and Chania (Crete).

List of Collaborators on elasmobranch related topics

- OceanCare
- Shark Foundation
- Shark Trust
- WWF Med
- University of Padova (Prof. Carlotta Mazzoldi)
- University of Catania (Prof. Maria Violetta Brundo)
- University of Patras (Prof. Dimitrios Moutopoulos)
- Florida International University (Prof. Yannis P. Papastamatiou)
- Sharks in Israel
- Ailerons
- LAMNA
- SUBMON
- Marine Biology Libya
- Biodiversity.gr

Alien species

Marine Invasive Alien Species (IAS) are considered as a major threat to the local ecosystems, the native biodiversity, the local economy and the human health and they are described as one of the main drivers of biodiversity loss globally. Several studies suggest that this issue costs hundreds of billions of dollars each year to the local economies. Nowadays, both EU and UN include IAS among the biggest threats to the marine ecosystems, with several legislations aiming at tackling the adverse effects and their expansion. The Mediterranean Sea is currently facing a severe invasion with more than 1000 IAS already confirmed to be present in the basin (>5% of the total marine biodiversity). Greece is one of the most impacted countries, with more than 300 reported IAS.

Running projects

Is it Alien to you.... Share it!!!

iSea aims to monitor the expansion and establishment of marine alien species in Greece and in neighbor countries in the Eastern Mediterranean, in particular Cyprus. The project is based on observations sent by non-experts that spend their time at the sea primarily recreational fishers and divers. This is one of the long term projects of iSea that in 2019 grew exponentially during the grand provided to the project manager by the [Vodafone Foundation](#) in the context of the WoD grants.

Currently the project is based on the Facebook Group [Σε ξενίζει... Μοιράσου το μαζί μας-Is it Alien to you? Share it!!!](#) which numbers 10,545 members (6.108 for 2018). Together with the Hellenic Network on Aquatic Invasive Species (ELNAIS) are the main providers of alien species records for Greece in the European Alien Species Information Network (EASIN), contributing to the implementation of the Marine Strategy Framework Directive (MSFD; EU 2017/848) and the Regulation (EU) No 1143/2014 on the prevention and the management of the introduction and spread of invasive alien species. The fact that the project is now well respected in the Mediterranean and is a key reference for all similar efforts in the basin reflects on its vitality and importance. Thus, scientists of iSea involved in the project are now invited by other scientists around the Mediterranean to contribute with their experience in research efforts.

In numbers

Project Team: 5 members

Identification team: 16 members

Other Collaborators: 20 members

Database: 2500 records of alien and rare species

Facebook Group Members: 10,545 members

Active Members in Monthly Basis: 9,375 members

First Records of species detected in the context of the project

2019:

- *Chrysaora cf. achlyos* (Mediterranean)
- *Matuta victor* (Cyprus)
- *Goniobranchus obsoletus* (Cyprus)
- *Sillago suezensis* (Greece)
- *Lutjanus argentimaculatus* (Greece)
- *Nemipterus randalli* (Greece)
- *Pomadasys stridens* (Greece)

2018

- *Abudefduf sexfasciatus* (Mediterranean)
- *Acanthurus sohal* (Mediterranean)
- *Acetabularia caliculus* (Greece)
- *Lagocephalus guentheri* (Greece)
- *Penaeus aztecus* (Albania)
- *Torquigener flavimaculosus* (Libya)

You can find more here: <https://isea.com.gr/activities/programs/alien-species/is-it-alien-to-you-share-it/?lang=en>

Pick the alien

The project “Pick the alien” aims to raise awareness of the local community and all the stakeholders of the Cyclades islands regarding alien species and the consequences of their presence on the local economy, tourism, indigenous species, environment and to human health. In the context of this pilot project and as a means of promoting the consumption of alien species a two-day event was held in the beautiful island of Santorini. During the event guests were informed about the alien species in general, their characteristics, impacts and good practices when poisonous. The last day, delicate dishes were created by eminent chefs using the alien *Siganus* sp., and the invasive Lionfish. Finally, a cook book on alien species in Greek was created in order to familiarize the public with this good practice.

Results:

1. Informing the community about alien species in Greece, the poisonous and toxic ones and their negative effects. Through the awareness campaign of the project and a two-day event in Santorini Island, we aimed at informing the audience about the existing alien species at Cyclades and in Greece, in general.
2. Promoting the consumption of edible alien species. Through the creation of a recipe e-book and with the contribution of renowned chefs at a gastronomical event in Santorini, we aimed to promote the alien species consumption, motivating fishers to target these species, contributing to the mitigation of them.
3. Training of citizen-scientists to report and collect samples of alien species. On ten of Cycladic islands, we established cooperation with local ambassadors of the program that will help citizen-scientists to collect samples of alien species with special toolkits which contain all the necessary material along with simple instructions on how to collect the sample by themselves in order to contribute to the study of the alien species.

Awareness event

A total of 22 people attended the event representing the sectors of small-scale fisheries, hoteliers, restaurateurs, environmentalists and scientists specialized on alien species. The speaker’s panel was composed from scientists specialized on alien species, environmentalists, representatives of Protected Area Management Bodies and NGOs. In detail, Mrs. Sofia Kitsou – deputy major of Thira opened the event, followed by: Mr. Vangelis Paravas – biologist and member of the local environmental organisation “Theran Sea”, Dr. Maria Salomidi – researcher at Hellenic Centre for Marine Research and member of the board of directors of Management Body of Cyclades Protected Areas, Mrs. Anni Mitropoulou – Director of Cyclades Preservation Fund, Dr. Paraskevi Nomikou – Associate Professor of physical Geography – Oceanography at the National Capodistrian University of Athens, Mr. Nikos Doumpas – coordinator of the project “Pick the Alien” and Alien Species Pillar of iSea, Dr. Argyro Zenetos – Biologist and Director of Research at Hellenic Centre for Marine Research and Mr. Periklis Kleitou – Marine Scientist, University of Plymouth, member of iSea.

Gastronomy event

The second event took place at Aegagros Caldera Houses in Megalochori, Santorini, where the gastronomic event and the tasting of the recipes of marine invasive species were prepared by professional chefs. In collaboration with renowned chefs from local restaurants (Selene, Aresana and Kiku), as well as with the support of other local organisations and the auspices of the municipality of Santorini, iSea organized a gastronomy event where the guests had the opportunity to taste one of the most common alien species of the Cyclades, the rabbitfish (*Siganus* sp.) and one of the newest species that was first recorded this year in the region, the lionfish (*Pterois miles*). Mr. Giorgos Chatzigiannakis, owner of Selene, the oldest and most renowned gourmet restaurant, on the island of Santorini. Mr Chatzigiannakis along with his chefs Christos Chitos and colleague Polichronis Damalas agreed to voluntarily help in the gastronomy event and prepare the menu.

Local ambassadors in Cyclades.

One of the aims of the project was not only to sensitize, inform and familiarize local communities of Cyclades with the presence of alien species, but also to collect samples of alien species that are fished from citizen scientists throughout Cyclades. These samples and the consecutive analyses will provide new data and information on the ecology and biology of alien species. For that purpose, 10 sampling kits were created and distributed to 10 islands throughout Cyclades. The islands were selected in terms of population and the records of alien species that iSea has already collected in the context of its long-term Citizen Science Invasive Alien species monitoring project “Is it alien to you? Share it!!!”. The sampling kits were distributed to focal points like diving centers, environmental organisations, fisher associations and interested individuals. The distribution of the kits intends to train citizen scientists to accurately recognize and formally report alien species, but also to provide the means for him/her to carry out basic sampling with all necessary instructions contained within the kit, with the help of the local ambassador.

Islands of distribution and focal points

- Santorini: [Santorini Active Volcanic Environment](#)
- Amorgos: [Amorgos Fishing Trips](#)
- Andros: Contact Nikolaos Doumpas (nikolaos.doumpas@isea.com.gr)
- Anafi: Contact Nikolaos Doumpas (nikolaos.doumpas@isea.com.gr)
- Paros: [Paros Divers](#)
- Milos: [Magdalini Premezzi SeaAwareness](#)
- Naxos: [Naxos Island Wildlife Protection](#)
- Folegandros: Contact Nikolaos Doumpas (nikolaos.doumpas@isea.com.gr)
- Kea – Tzia: [Kea Divers](#)

Recipe e-book with edible alien species

Publishing and widely circulating an e-book with recipes containing edible alien invasive species will motivate consumers, fishers as well as the overall restaurant and gastronomy sector to try and taste them. The recipes included in the e-book are based in cooking preparations of the alien species of lionfish (*Pterois miles*), rabbitfish (*Siganus* sp.) and trumpetfish (*Fistularia commersonii*). The e-book also contains the recipes that were prepared and experienced by the participants of the gastronomy event, Alexandros Untila (Kiku), Kostas Aggelopoulos (Aressana) and Christos Chitos (Selene Restaurant).

Press Release and articles in the media

During the project, iSea prepared one press release to distribute it to local and national Media. In total, more than 25 news blogs and sites shared articles about the project from July till December 2019.

Social media platforms

The Facebook event of the project reached 5,300 people, had 100 responses and an average reach of 1,627 people, 11.6 likes and 4.8 shares.

On Instagram the relevant post achieved a reach of 433 people and 37 likes.

All posts were also re-shared and reposted by iSea to relevant Facebook groups on alien species, marine biology, gastronomy, and recreational fishing, but also to iSea's Facebook group project "Is it alien to you? Share it!!!" with over 10,000 members.

You can find more in the project's report available at: <https://isea.com.gr/pick-the-alien-2/?lang=en>

Concluded projects

Alien CSI STSM

The COST Action Alien CSI (CA17122) will address multidisciplinary research questions in relation to developing and implementing CS, advancing scientific understanding of AS dynamics while informing decision-making specifically implementation of technical requirements of relevant legislation such as the EU Regulation 1143/2014 on IAS, support of the EU biodiversity goals and embedding science within society. The Action will explore and document approaches to establishing a European-wide CS AS network. It will embrace relevant innovations for data gathering and reporting to support the implementation of monitoring and surveillance measures, while ensuring benefits for society and citizens, through an AS CS European network. The Action will, therefore, increase levels of participation and quality of engagement with current CS initiatives, ensuring and evaluating educational value, and improve the value outcomes for potential users including citizens, scientists, alien species managers, policy-makers, local authorities, industry and other stakeholders.

In this context, an STSM granted to an iSea researcher, for visiting EASIN and together with the scientific officers of EASIN and in collaboration with researchers from the Hellenic Centre for Marine Research to translate all available materials and will produce all the additional materials for including the new species in the Invasive Alien Species Europe App. This will facilitate reports of the 57 listed species in Greece and potentially Cyprus. In addition, marine invasive alien species listed with high likelihood of arrival in the latest horizon scanning, will be also included, contributing to the early detection of these species.

The new version of the application including the Greek translation of the 57 listed species is out. Soon a new version will be available including all species included in the latest horizon scanning.

WoD Vodafone Foundation

One project manager of iSea was granted with a six months grant exclusively for salary costs in order to run the Facebook page of the project Is it Alien to you.... Share it!!!. Between January 2019-June 2019 the group increased by 4000 members, 175 new observations records in the projects database of 27 different species while two observations resulted in scientific publications because they were first records.

Press releases

2019

- Ανακοίνωση της iSea σχετικά με σχόλια και post στα μέσα κοινωνικής δικτύωσης για την κατανάλωση Λαγοκέφαλου
- Επιστολή της iSea στα ΜΜΕ σχετικά με το πρόσφατο περιστατικό με το λαγοκέφαλο στη Κάρπαθο.
- Επιστολή στο Υπουργείο Αγροτικής Ανάπτυξης και στο Υπουργείο Περιβάλλοντος και Ενέργειας για την επίθεση λαγοκέφαλου (*Lagocerhalus sceleratus*) σε λουόμενα σε παραλία της Καρπάθου.
- Απάντηση του Υπουργείου Αγροτικής Ανάπτυξης και Τροφίμων σε συνέχεια της ανωτέρω επιστολής

2018

- Joint Press Release about the Toxic and Poisonous Alien Species occurring in the Mediterranean Sea

- Ανακοίνωση σχετικά με τα τοξικά και δηλητηριώδη ξενικά είδη των Ελληνικών Θαλασσών

Outreach

In total, 2 original articles were produced in the national Greek press and together with the Press releases of the organisation resulted in more than 100 articles in other media, also in Cyprus.

- Λαγοκέφαλος: Πότε γίνεται επιθετικός, ποια είναι τα τρία είδη και τι ισχύει με την κατανάλωσή του
- Κάτω από τα δηλητηριώδη αγκάθια όλη η νοστιμιά

Publications

2019

- Doumpas, N., Giovos, I. (2019). Additional records of the venomous *Rhopilema nomadica* Galil, 1990 from the Aegean Sea. In Collective A: New Mediterranean biodiversity records 2019 (Kousteni et al.). Mediterranean Marine Science, 20(1): 230-247.
- Giovos I., Kleitou P., Poursanidis D., Batjakas I., Bernardi G., Crocetta F., Doumpas N., Kalogirou S., Kampouris TE, Keramidas I., Langeneck J., Maximiadi M., Mitsou E., Stoilas V.O., Tiralongo F., Romanidis-Kyriakidis G., Xentidis NJ., Zenetos A., Katsanevakis S., 2019. The importance of citizen-science in monitoring marine invasions and stimulating public engagement – A case project from the Eastern Mediterranean. Biological Invasions. 21(12): 3707–3721
- Kampouris, T.E., Doumpas, N., Giovos, I., Batjakas, I. (2019). First record of the Lessepsian *Nemipterus randalli* Russell, 1986 (Perciformes, Nemipteridae) in Greece. Cahiers de Biologie Marine 60: 559-561
- Kalogirou, S., Giovos, I. (2019). First record of *Pomadasys stridens* (Forsskål, 1775) in Hellenic waters. In Collective A: New Mediterranean biodiversity records 2019 (Kousteni et al.). Mediterranean Marine Science, 20(1): 230-247.
- Kleitou, P., Doumpas, N. (2019). The first record of the moon crab *Matuta victor* (Fabricius, 1781) (Crustacea; Decapoda; Matutidae) from Cyprus. In Collective A: New Mediterranean biodiversity records 2019 (Kousteni et al.). Mediterranean Marine Science, 20(1): 230-247.
- Kleitou, P., Giovos, I., Wolf, W., Crocetta, F. (2019). On the importance of citizen-science: the first record of *Goniobranchus obsoletus* (Rüppell & Leuckart, 1830) from Cyprus (Mollusca: Gastropoda: Nudibranchia). BioInvasions Records (2019), 8(2): 252-257.
- Tiralongo, F., Doumpas, N. (2019). First record of *Sillago suezensis* Golani, Fricke & Tikochinski, 2014 from Greece. In Collective A: New Mediterranean biodiversity records (Kousteni et al.). Mediterranean Marine Science, 20(1): 230-247.
- Tiralongo, F., Lillo, A. O., Tibullo, D., Tondo, E., Martire, C. L., D’Agnese, R., Macali, A., Mancini, E., Giovos, I., Coco, S., Azzurro, E. (2019). Monitoring uncommon and non-indigenous fishes in Italian waters: one year of results for the AlienFish project. Regional Studies in Marine Science 28 (10066).
- Tiralongo, T., Giovos, I., Doumpas, N., Langeneck, J., Kleitou, P., Crocetta, F. (2019). Is the mangrove red snapper *Lutjanus argentimaculatus* (Forsskål, 1775) established in the eastern Mediterranean Sea? First records from Greece through a citizen science project. BioInvasions Records (2019).
- Langeneck, J., Crocetta F., Doumpas N., Giovos I., Piraino S., Boero F. (2019). First record of the non-native jellyfish *Chrysaora cf. achlyos* (Cnidaria: Pelagiidae) in the Mediterranean Sea. BioInvasions Records.

2018

- Al-Mabruk, S.A.A., Stoilas, V.O., Kleitou, P., Giovos, I. (2018). The first record of *Torquigener flavimaculosus* (Tetraodontiformes: Tetraodontidae) from Libya. International Journal of Fisheries and Aquatic Studies 6(4): 449-450.

- Çelik, M., Deidun, A., Uyan, U., Giovos, I. (2018). Filling the gap: a new record of diamondback puffer (*Lagocephalus guentheri* Miranda Riberio, 1915) from the west-eastern Mediterranean Sea, Turkey. *Journal of the Black Sea/ Mediterranean Environment* 4(2): 180- 185.
- Giovos, I., Bernardi G., Romanidis-Kyriakidis, G., Marmara, D., Kleitou, P. (2018). First records of the fish *Abudefduf sexfasciatus* and *Acanthurus sohal* in the Mediterranean Sea. *BioInvasions Records* 7 (2): 205-210.
- Giovos, I., Kleitou, P., Paravas, P., Marmara, D., Romanidis-Kyriakidis, G., Poursanidis, D. (2018). Citizen scientists monitoring the establishment and expansion of *Pterois miles* (Bennett, 1828) in the Aegean Sea, Greece. *Cahiers de Biologie Marine* 59: 359 – 365.
- Kampouris, T.E., Tiralongo, F., Golemaj, A., Giovos, I., Doumpas, N., Batjakas, I. (2018). *Penaeus aztecus* Ives, 1891 (Decapoda, Dendrobranchiata, Penaeidae): On the range expansion in Sicilian waters and on the first record from Albanian coast. *International Journal of Fisheries and Aquatic Studies* 2018; 6(4): 468-471.
- Kampouris, T.E., Giovos, I., Doumpas, N., Stergioti, A., Batjakas, I. (2018). Prawn cocktail in Crete. First record of *Penaeus pulchricaudatus* (Stebbing, 1914) and on the establishment of *P. aztecus*, (Ives, 1891) and *P. hathor* (Burkenroad, 1959) (Decapoda, Dendrobranchiata, Penaeidae) in Cretan waters, south Aegean Sea, Greece. *Journal of the Black Sea/Mediterranean Environment* 24(3): 199-211.
- Kleitou, P., Giovos, I., Tiralongo, F., Doumpas, N., Giacomo, B. (2018). Westernmost record of the diamondback puffer, *Lagocephalus guentheri* (Tetraodontiformes: Tetraodontidae) in the Mediterranean Sea: First record from Greek waters. *Journal of Applied Ichthyology* 00: 1–4.
- Kleitou, P., Kalogirou, S., Marmara, D., Giovos, I. (2018). *Coryphaena hippurus*: A potential predator of *Lagocephalus sceleratus* in the Mediterranean Sea. *International Journal of Fisheries and Aquatic Studies*, 6(3): 93-95.
- Mitsou, E., Maximiadi, M. (2018) New records of *Lagocephalus sceleratus* (Gmelin, 1789), *Cassiopeia andromeda* (Forsskål, 1775) and *Pterois miles* (Bennett, 1828) in Greek MSFD areas. In: *New Mediterranean biodiversity records*. IN: Yokes et al. *Mediterranean Marine Science, Collective A*, November 2018.
- Tsiamis, K., Giovos, I. (2018). First record of the green alga *Acetabularia caliculus* from Greece. IN: Yokes et al. *Mediterranean Marine Science, Collective A*, November 2018.

2017

- Giovos, I., Bakiu, R. (2017). The first record of Oilfish, *Ruvettus pretiosus* (Cocco, 1833) in Albanian waters. in *Collective A, New Mediterranean biodiversity records* (July 2017) Gerovasileiou et al. 18(2), 355-384.
- Ragkousis, M., Marmara, D., Halit, F., Umut, U., Tuncer, S., Giovos, I. (2017). The northward expansion of *Synaptula reciprocans* (Forskål, 1775) in the Mediterranean Sea. *Journal of the Black Sea/Mediterranean Environment*, 23(3): 209-215.

Conferences and Meetings

2019

- Naasan Agah, R., Giovos, I., Kleitou, P., Christidis, A., Lanjeneck, J., Kalogirou, S. (2019). Preliminary results on the distribution extension of five data-limited fish species in the eastern Mediterranean Sea. 14th ICZEGAR, Thessaloniki, 27-30 June 2019.
- Zenetos, A., Giovos, I., Doumpas, N., Kleitou, P. (2019). The contribution of citizen-scientist in monitoring marine Alien Species in Greece. COST Alien-CSI Action Management Committee meeting and Working Group activities, Akrotiri, Cyprus, 25-28 February 2019.

2018

- Keramidas, I., Doumpas, N., Kleitou, P., Tiralongo, F., Bernardi G., Romanidis-Kyriakidis, G., Marmara, D., Giovos, I. (2018). Is it Alien to you?? Share it!!: Citizen scientists monitoring Non-Indigenous species in Greece. 12th Panhellenic Symposium of Oceanography & Fisheries Ionian University, Corfu, 30 May – 3 June 2018

2017

- Giovos, I., Doumpas, N., Ioannou, I., Sarafidou, G., Marmara, D., Paravas, V., (2017). Is Alien to you...Share it!!! A Citizen Science Project on alien species in Greece. ESENIAS Conference, Sofia, Bulgaria.
- Marmara, D., Keramidas, I., Paravas, V., Giovos, I. (2017). The invasive Lionfish in Greece. Workshop on the Lionfish in the Eastern Mediterranean Sea: New problems, new solutions: Distribution, Eradication & Utilization, Antalya, Turkey.

Internships-Thesis

Currently one student from the University of Patras is conducting his BSc thesis in collaboration with iSea on the spread of alien species in the Mediterranean and the possible importance of citizen science in the rapid detection of marine alien species.

List of Collaborators on elasmobranch related topics

- EASIN
- ELNAIS
- IUCN (MedMIS)
- ALIEN CSI
- INVALIDIS
- DIVE IN ACTION
- Chalki Dive Center
- Paros Diving Center
- Samos Diving Center
- Kalymnos Diving
- Santorini Active Volcanic Environment
- Amorgos Fishing Trips
- Paros: Paros Divers
- Magdalini Premezzi SeaAwareness
- Naxos Island Wildlife Protection
- Kea Divers
- Liamis Dive Centers
- Alien species in Greece & Cyprus
- Coypu in Greece
- HELLENIC MALACOLOGY
- OPEN REEF
- Mediterranean Marine Life
- Fauna marina mediterranea
- Aliens in the Sea
- Marine Biology Libya
- Στέκι ψαροτουφεκάδων

- Spinning Anglers Team
- SPINNING ΣΤΗΝ ΒΟΡΕΙΑ ΕΛΛΑΔΑ
- Μέδουσες και Τσούχτρες στην Ελλάδα - Jellyfish in Greece
- Heavy Casting Fishing

Aquatic Litter

Aquatic litter is one of the biggest problems of the aquatic ecosystems. Thus, iSea implements beach clean-ups and awareness raising campaigns against plastic debris and microplastics in the Greek seas. The beach clean-up campaign of iSea is the first zero waste beach clean-up in Greece since 2017 with the use of exclusively reusable equipment (bags and gloves). Each clean up consists of three parts. In the first part the participants are informed about the most common aquatic litter, their impact and the concept of microplastics. The participants are also provided with information on how they can reduce their single use plastic waste. The second part of each action is the coastal or underwater clean up. Finally, a data survey takes place, in order coastal pollution sources in different areas to be identified and participants to actively be involved in data collection in the context of Citizen Science and the 10th descriptor of MSFD.

During 2019, 83 beach clean ups took place in different areas through Greece, where almost 50 km of coastline were cleaned. Altogether, more than 2000 volunteers collected more than 13.5 tons of litter from March to October 2019. Apart from the beach clean ups, 17 underwater clean ups took place completing a total number of 100 actions aiming the direct removal of marine litter. The above actions belong to four different projects: “Beach cleanups in North Aegean Islands” which is funded by A.C. *Laskaridis Charitable Foundation*, “Prosfero” funded by *AB Vasilopoulos and Procter & Gamble*, “Home sweet... Beach! Keep it clean” is funded by *AstraZeneca, Glaxo Smith Kline, Vodafone, Boston Consulting Group* and #zeroplastic is funded by *Ocean Care*.

Table 1 Information of the projects conducting beach cleanups

Project	Amount of Litter (Kg)			Volunteers (number)	Area covered (m)
	Non-recyclable	Recyclable	Total		
Beach cleanups in North Aegean Islands	1904	28	1932	465	2605
Prosfero	4799	233	5032	428	31760
Home sweet... Beach! Keep it clean	4014	411	4425	886	8380
#zeroplastic	2155	41	2196	300	4810
Total	12872	713	13585	2079	47555

Beach cleanups in North Aegean Islands

In October 2019, during the project “Beach clean ups in North Aegean Islands”, 12 beaches in 6 different islands were cleaned up and 8 underwater clean ups took place in ports of Thassos, Lesvos, Chios and Lemnos islands completing a total of 20 clean ups. The targeted islands were Samothraki, Thassos, Lesvos, Chios, Lemnos and Agios Eustratios. The clean ups covered a total area of more than 2.5 km, where almost 2 tons of litter was removed with only a small part of it being recyclable. 465 volunteers took part, from which 315 were students and educators from local primary schools. The rest of the participants belonged to volunteer groups of the local communities.

The following volunteer groups participated in the project: CAT Center Action Thassos Dive Center, Hellenic Rescue Team Branch Lesvos, Elementary School of Mithimna, Apothika bay, 2nd Elementary School of Mirina, Diving Centre Panagiotis Tziouchtis, Βιώσιμη Σαμοθράκη, 1st Elementary School of Thasos, 8th

Elementary School of Chios, University of the Aegean, Dancing Association of Lemnos Ifestos and the Volunteer Team of Nea Koutali, Ζαθέη.

Table 2 List of coastal and underwater clean ups in the context of “Beach clean ups in North Aegean Island

Beach clean ups	Underwater clean ups
Kamariotissa Beach, Samothraki	Limenas Port, Thassos
Psili Ammos, Samothraki	Skala Kallirachis Port, Thassos
Limenas Beach, Thassos	Molivos Port, Lesvos
Skala Kallirachis Beach, Thassos	Petra Port, Lesvos
Molivos Beach, Lesvos	Othomanika Port, Chios
Petra Beach, Lesvos	Agia Ermioni Port, Chios
Othomanika Beach, Chios	Mirina Port, Lemnos
Agia Ermioni, Chios	Nea Koutalli Port, Lemnos
Mirina Beach, Lemnos	
Nea Koutalli, Lemnos	
Agios Eustratios Beach, Agios Eustratios	
Alonitsi Beach, Agios Eustratios	

Prosfero

From May to September 2019, 40 beaches in Zakynthos, Kefalonia and Crete were cleaned in the context of “Prosfero” project. The clean-ups covered a total area of more than 30 km and 5 tons of litter was removed with only a small part of it being recyclable. 428 volunteers took part, the majority of which belonged to volunteer groups, while the rest of the participants were tourists or residents of the areas where the actions took place. In addition, clean up tool kits were produced in the context of the project including the necessary reusable equipment (gloves, plant-based bags and data recording forms). Thus, every participant volunteer group received a kit, in order to regularly implement clean ups in their local beaches.

The following volunteer groups participated in the project: Zakynthos Volunteer Team, ARCHELON: The Sea Turtle Protection Society of Greece, Management Authority of the, National Marine Park of Zakynthos, Cultural association Kateliou- Markopoulou, Management Authority of the National Park of Ainos, Green Team UoC, Syllogos Agapi, Green Team Dedisa, Neolaia Kissamou, Clean Beaches in Kissamos, TUI MAGIC LIFE Candia Maris, Α.Ο Πρωταθλητες Ηρακλείου, Φώτο-Σύνθεσις, ΑΤΑΧΤΟΙ, Βοήθα με να μπορώ. Εθελοντική Ομάδα Αλληλεγγύης Χανίων, ENAMONOX, EVA Cruises, Kalives Underground Crossbox, Fiskardo Divers, Εθελοντική Ομάδα Δασοπυρόσβεσης Ελείου- Πρόννων-Κεφαλονιάς, Α.Ο. Ηρακλής Πρόννων, Elementary School of Skala and the Cultural Association of Kalamaki Mouses.

For more: <https://bit.ly/2PszI9o>

Table 2 List of beaches cleaned in the context of “Prosfero” project

Crete	Kefalonia	Zakynthos
Cyani Akti Beach	Mounta Beach	Kalamaki Beach
Perastikos Potamos Beach	Skala Beach	Western Laganas Beach
Delta Tauroniti	Poros Beach	Krioneri Beach
Rapanania Beach	Kalavomilos Beach	
Lappaioi Beach	Variko Beach	
Pigianos Kampois	Livadi Beach	
Municipal Beach of Rethymno	Fanari Beach	

Anissara Beach
Aposelemi Beach
Nea Alikarnasos Beach
Xeropotamos Beach
Arina Beach
Kedrodasos Beach
Episkopi Beach
Koumpes Beach
Misiria Beach
Karteros Beach
Gournes Beach

Agia Varvara Beach

“Home sweet... Beach! Keep it clean”

The project “Home sweet... Beach! Keep it clean” includes the beach and underwater zero waste clean ups implemented by iSea in different places of Greece including Spetses island, Crete, Athens, Thessaloniki, Volos, Khalkidhiki and Patras. During 2019, 35 beach and underwater clean ups were conducted and a total of more than 4 tons of litter was collected. Almost 900 volunteers participated and more than 8 km in total were cleaned. The clean ups were conducted in collaboration with volunteer groups, public and private operators, local schools, associations, diving centres and individual volunteers and were supported by operators that expressed interest in taking action against the issue of pollution in their areas. 15 active volunteers of iSea from different places of Greece were also trained and contributed to the coordination and the data collection during each beach cleanup.

The following volunteer teams participated in the project: Spetses Plastic Detox, 56th High School of Athens, Young Volunteers in Action, 3rd High School of Vriliesia, International Organization of Migration, Management Authority of Koronia- Volvi- Chalkidiki, Management Authority of Marathonas- Shinias National Park, Hellenic Department of the European Commission, PODEIDON Diving Academy, Ocean Diving Centre, Σύλλογος Αποφοίτων Εκπαιδευτηρίων Μαντουλίδης, We Know You Care, Management Authority of Axios Delta National Park and the Municipality of Thessaloniki.

In addition, iSea organised the corporate volunteering activities of different companies. Employees of Vodafone, Procter and Gamble, Boston Consulting Groups, Glaxo Smith Kline, AXA Insurance, AB Vasilopoulos and AstraZeneca voluntarily participated in beach clean ups and were informed about the issue of marine pollution and its impact. The beach clean ups were conducted in the context of the corporate volunteering activities of the above companies with the aim to inform and raise awareness about environmental issues among the participant volunteers, as well as give them the opportunity to apply voluntary skills by participating in social activities, promoting community improving activities and highlighting the value of volunteering.

For more: <https://bit.ly/2rvPBng>

#zeroplastic

#zeroplastic is an awareness raising campaign against plastic debris and microplastics in Greek seas. The campaign consists of several actions including:

- A communication campaigns.

In order to inform the public about the problem of plastic, pollution real images of the effects of plastics on marine organisms were presented and in collaboration with Foundry photography studio the effects of plastic pollution to humans were also highlighted. In addition, proposals for the replacement of disposable plastics, promoting a zero-waste lifestyle were presented. The campaign reached an average of 25,000 people per post in Social Media.

- Production of informative material for students and teachers.

The material is available online, free of charge on the iSea page and acquired the official permission from the Hellenic Ministry of Education and Religious Affairs for the 2018- 2019 school year. In addition, members of iSea participated in 30 events in order to inform and raise awareness about the issue of plastic pollution based on the informative materials which was also distributed through different areas of Greece with an estimated number of more than 20,000 beneficiaries.

- Science Café Webinars.

4 live streaming interviews with researchers, whose sector is relevant with the plastic and microplastic pollution, were conducted in order to eliminate the communication gap with the scientific community and the general public. Christina Zeri, from the Hellenic Center of Marine Research, Cristina Kontaxi, from the A.C. Laskaridis Foundation, Dionysis Latinopoulos and Yiannis Kretsenitis from Aristoteles University of Thessaloniki participated in the interviews discussing about different issues of pollution from plastics and microplastics according to their expertise and experience.

- 2 awareness raising events.

The first event was organized in collaboration with the Municipality of Thessaloniki and the International Hellenic University aiming to communicate the issue to the tourism industry and bring together tourism business with companies producing environmentally friendly products. The second event was organized in collaboration with the Directorate of Primary Education of Western Thessaloniki and the Children's Museum of Thessaloniki aiming to raise awareness to the next generation.

- A study for exploring the knowledge and the perception of the Greek public about the issue.

- 6 beach clean-ups

The clean ups were organized in collaboration with the Management Authority of the National Park and the Protected Areas of Thermaikos Gulf. 4810 m of beach were cleaned by 300 volunteers who collected more than 2 tons of litter from beaches of Corfu island and Thessaloniki.

The following volunteer teams participated in the project: Erimiti Plous - Environmental protection of the northeastern coast of Corfu, Let's do it Greece, Let's do this Corfu, *Action for Wildlife*, *Ethelon*, *B.A.T. – Bio Auth Team* of Aristotle University of Thessaloniki, *Hikers Thessaloniki*, *Origen.gr*, *YMCA Thessaloniki* volunteer's group, *Cultural Association of Aggelochori*, *Lion's club*, the *Student Environmental Group* of University of Macedonia, students from the 6th High School of Evosmos, the High School of Kalochori and the 53rd Primary School of Thessaloniki, the Environmental Education Center of Corfu.

For more: <https://bit.ly/38omuTR>

Fishing for Litter

Fishing for Litter is a project by *A.C. Laskaridis Charitable Foundation* aiming to reduce marine litter in the sea through the involvement of the fishing industry. iSea oversees the implementation of the project in the North Aegean Sea involving bottom trawl fishers from Michaniona and Kavala, ports which represent 30% of the Greek fishing fleet.

The fishers are collecting litter accumulated in their nets as a part of their routine activity, then they store, count, weight, record it and dispose it properly on shore.

The forms they are using to register the litter are based on the MSF directive of the Eu and this project is inspired by the OSPAR agreement 2017-08 protocol that Greece has yet to implement.

The project runs from October 2019 with the participation of 8 professional fishermen from bottom trawlers, 6 from Kavala and 2 from Michaniona Port.

During the Fishing for Litter project 2 informative events were also held in order to involve the fishing industry in the project, inform the participants about its objectives and discuss the impact of marine pollution on their activities.

More than 2,5 tons of litter was recorded and removed by the participating vessels during the last months of 2019.

For more: <https://bit.ly/35702MN>

HUMAN AND AQUATIC ECOSYSTEMS

Human relation to the environment is a main factor that leads one's behaviour towards it and shapes his decision making in his everyday life. Raising environmental awareness among students, young people, as well as different stakeholders is another main goal of iSea which implements different projects in order to achieve it. This pillar includes the environmental education activities of iSea that focus on enriching the knowledge of the public about the marine environment and develop pro environmental attitudes mainly among school age and university students, tourists and local communities of different areas. In 2019, more than 2000 participants were informed from iSea about the problem's marine ecosystems face and their impact to marine species and human communities through school visits and educational events held in different areas of Greece and the implementation of particular projects.

Running projects

MARINE Education and COmmunication network on the MEDiterranean

The MARINE_ECOMED Erasmus + Project is framed to promote research and cooperation within the Mediterranean region in the field of sustainable management of marine and coastal areas, innovative communication and education strategies to support its implementation.

The Project enhances the integration of professional experiences and approaches in the sustainable management of marine and coastal areas from non-governmental organisations and academic institutions with the goal to improve the quality of research and education in this multidisciplinary subject. Main project objectives are the implementation of an innovative education pathway for university students and the creation of new open education resources that will be made available to any researcher, teacher or student interested in the project topic.

The main outputs of the project are the implementation of an Intensive Study Program (ISP) for university students and the creation of new educational materials. The ISP will focus on the multidisciplinary subject of planning and management of marine and coastal areas. It involves students from different academic institutions and with different backgrounds that are trained through innovative integrated approaches and collaborate in an international workshop to apply and integrate their knowledge in an interactive manner working on a real case study. The new educational materials include the Open Education Resources in Planning and management of marine and coastal areas and Ocean literacy, the MOOC on Planning and management of marine and coastal areas, the Handbook on Marine education and communication in the Mediterranean. These materials will be produced through the collaboration of the experts of the partnership and made freely available for download from the MARINE_ECOMED website.

During the first year of its implementation, 26 university students participated in the courses and attended the annual workshop in Marseille and 2 meetings were held among the partners of the project.

Projects partners:

IUAV University of Venice

Aix-Marseille University

Aristotle University of Thessaloniki

Tethys

Submon

iSea

For more: <https://www.marine-ecomed.net/>

Educational school visits

iSea acquired the official permission from the Hellenic Ministry of Education and Religious Affairs for the 2018- 2019 school year and during 2019 conducted 20 educational school visits in elementary, high and

special education schools. In total, more than 700 students and their educators were informed about the problem of plastic pollution and its impact on marine ecosystems, marine life and human health. In addition, educational materials were distributed to the participant schools including information about the topic and corresponding activities in order to promote their critical thinking, apply their knowledge in their everyday choices and promote a zero-waste lifestyle. Participant schools were equipped with the necessary reusable materials for zero waste beach cleanups (gloves, bags and data collection forms) and the majority of students took action by implementing beach ups in their areas. Most of the participant schools were located in Athens, Thessaloniki and North Aegean islands.

iSea uses different educational materials during the school visits depending on the age and the needs of each participating group of students. The materials produced in the context of #zeroplastic project include activities addressing from younger to high school students and are distributed to the participants. Relevant coloring pages are used for younger students and activities in order for students to reduce their plastic waste at school and in their everyday life are used for older ones. Special education students become familiar with different reusable items and participate in environmental games. In addition, elementary and high school students work in teams in order to address the problem of plastic pollution in a local scale representing different stakeholders during a role game. Thus, collaboration and discussion among them are promoted and problem solving and decision-making skills are developed. #zeroplastic educational materials and the content of iSea school visits also acquired the official permission from the Hellenic Ministry of Education and Religious Affairs for the 2019- 2020 school year.

Awareness raising events

During 2019 iSea organized and took part in more than 25 awareness raising events aiming to raise public awareness about environmental topics and promote pro environmental attitudes. Almost 3000 beneficiaries are estimated to have attended the events including, school students, educators, tourists, tourism industry representatives, other organisations, local authorities and residents of different places. Open events mainly addressed school aged students, tourists and local communities. Thus, they are separated in two parts. During the first part, iSea informs the participants about environmental issues depending on the topic of each event. During the second part, young participants deal with games and activities related to the topic. iSea also organizes and takes part in events including presentations and lectures on particular topics addressed to the public and relevant stakeholders. The events that took place during 2019 were held in different areas of Greece including Thessaloniki, Athens, Corfu, Spetses island and Crete.

Some of the events follow:

- [Ημέρα εκπαίδευσης στο ψάρεμα και την προστασία περιβάλλοντος](#)
- [Ημερίδα με δράση για το Περιβάλλον](#)
- [Εκδήλωση Sophie \(Πρωώθηση του βιώσιμου θαλάσσιου τουρισμού\)](#)
- [Παράκτιοι Καθαρισμοί στις Σπέτσες!](#)
- [Εκστρατεία Zeroplastic Κέρκυρα/Zeroplastic Campaign Corfu](#)
- [Θαλάσσια ρύπανση: η ανάγκη για γνώση, συνέργειες και δράσεις](#)
- [Ενημερωτική εκδήλωση στο πλαίσιο του έργου Marliter](#)
- [Ομιλία Περιβαλλοντικής Ενημέρωσης & Ευαισθητοποίησης](#)
- [Εργαστήρια στο Κέντρο Περιβαλλοντικής Εκπαίδευσης και Ανακύκλωσης της ΑΒ Βασιλόπουλος στο Πνευματικό Κέντρο Χανίων](#)
- [2ο Φεστιβάλ Παιχνιδιού στο στρατόπεδο του Παύλου Μελά](#)
- [Athens Zero Waste Festival](#)
- [4ο Φεστιβάλ Περιβαλλοντικού Παιχνιδιού](#)
- [Kids Fishing Day 2019](#)

Collaborations for the events

Aristoteles University of Thessaloniki, KinderDocs, MOMus Museum of Modern Art, AB Vasilopoulos, Let's do it Greece, Let's do it Corfu!, Environmental Education Center of Corfu, SAVE ERIMITIS- CORFU, Municipality of Thessaloniki, SUBMON, SEA SHEPHERD, Spetses Pastic, Detox, Municipality of Pavlos Melas, Public library of Kalochori, Spinning Στην Βόρεια Ελλάδα, Management Authority of Delta Axios National Park, ΦΟΔΣΑ, KIDDOT, Νεολαία Γαλάτιστας, International University of Greece, Children's Museum of Thessaloniki.

Concluded projects

Marine Biodiversity Citizen Science Summer School

The project aimed at empowering the future generation of marine scientists from different Greek Universities in utilizing Citizen Science and familiarize them with the use of participatory science for monitoring marine biodiversity.

In this context, during a 5.day summer school, 10 students were trained:

1. in monitoring biodiversity with innovative tools in the field,
2. in visual census methods for monitoring marine organisms,
3. in using data from open Citizen Science platforms

Citizen Science project and relevant applications were presented to the students and 5 different areas in Chalkidiki Peninsula were visited, for monitoring biodiversity using different applications and platforms. Students worked in the field and participated in lectures by different scientists and citizen science practitioners in order to understand citizen science and how they can use it in the future for producing research and monitor biodiversity.

The main activities were: monitoring the marine and coastal biodiversity using iNaturalist application within EU - Natura 2000 sites, monitoring underwater biodiversity and getting familiarized with the IUCN Med-MIS platform for monitoring invasive alien species in the Mediterranean, using the MyNatura2000 application, operating a ROV as a tool for recording the underwater biodiversity, recognizing the importance of seagrass and seaweed for the marine ecosystems, becoming familiarized with the most common seaweed and seagrass species

The project was organized within MIO-ECSDE's 'Mediterranean Action Day 2019: Promoting Participatory Science in the Mediterranean' supported by the LIFE+ Operating Grant for NGOs.

For more: <https://bit.ly/38oeed7>

Sani Eco Days 3D Printing

In summer 2019, iSea participated in the events of Sani Eco Days, which are organised annually by Sani resort in Khalkidhiki. During these open events, iSea presented to the participants the impact of marine plastic pollution based on the communication and educational material produced within #zeroplastic project. In addition, kids of all ages participated in relevant activities and created relevant handicrafts. iSea also conducted 3D printing workshops during Sani Eco Days. Having acquired an injector machine and shredded plastic from single use bottles and caps, iSea was producing and offering souvenirs from melted plastic to the participants. By presenting and explaining the procedure of 3D printing, participants not only had the opportunity to understand the recycling procedure, but mainly become familiarized with a zero-waste lifestyle though upcycling in their everyday life and deeply understand the concept of circular economy.

The vast majority of the participants were tourists coming from different countries worldwide and Greek visitors from areas near Khalkidhiki. Almost 1000 individuals were informed from iSea during Sani Eco Days including mainly families with young children and teenagers from England, Germany, Russia, USA, Ukraine and Greece. In addition, many volunteers of iSea participated in the project by providing information about environmental issues to the visitors, implementing activities with the kids and helping them create

handicrafts, disseminating the communication and educational materials concerning plastic pollution and 3D printing.