iSea Activity Report 2021

Thessaloniki 2021

iSea

www.isea.com.gr

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

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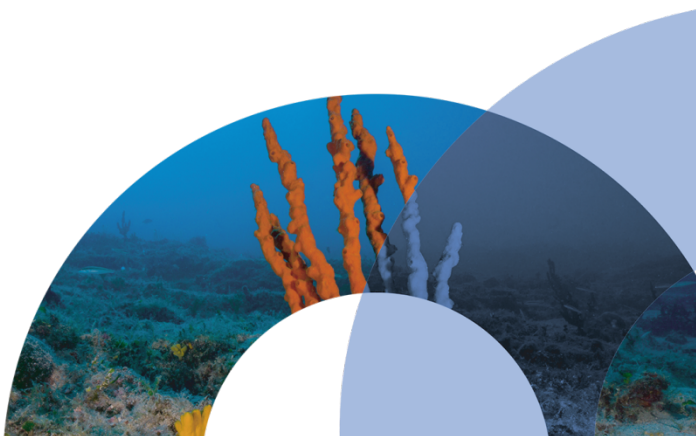
Revised by all partners of iSea

And signed by the Legal Representative of iSea: Ioannis Giovos



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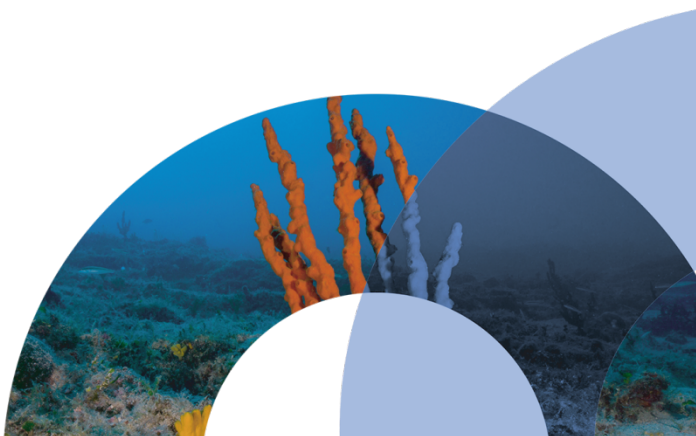
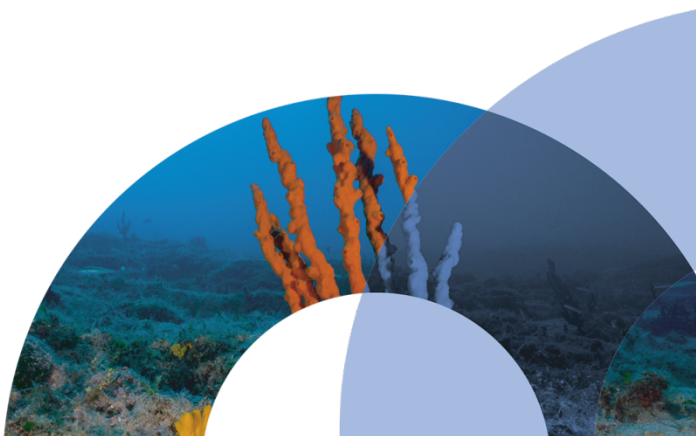




ABOUT

iSea is a Non – Profit Civil Partnership founded in line with the Articles 741 et seq. of the Civil Code and the applicable company law legislation of the Greek State. iSea aims to preserve the aquatic environment by sensitizing the state, managers, and public opinion, promoting measures that improve environmental legislation and public sensitivity, and raising awareness among different stakeholders and facilitating their active participation in environmental protection. iSea's major pillars are: (i) Aquatic Litter; (ii) Vulnenarble Species; (iii) Citizen Science; Human and Aquatic Ecosystems. The pillars were designed with the goal to utilize the expertise of iSea to promote sustainable development, and environmental, social and economic welfare.

2021 OVERVIEW

The year 2021 was a steppingstone for iSea marking five years since its establishment founding. The organisation undergone fundamental transformations and amendments of its major pillars with the to broaden its scope and increase its impact. Despite the organisational transformations, iSea managed to grow significantly in size, both in terms of number of employees and implementing projects and widened its network of collaborators and funders.

Collaborations

In 2021, iSea managed to maintain and significantly expand its network of collaborators, enhancing its collaboration with key actors/bodies in marine conservation like the IUCN, iNaturalist, Global Fishing Watch, WWF Mediterranean Office, Tethys Research Institute, MEDASSET and others. The most collaboration growth was achieved with the Universities and Research Institutes group. In addition, the organisation launched, for the first time ever, strategic collaborations with Management Bodies of National Parks around Greece, like Axios Delta and Evros Delta. Over the year, iSea actively collaborated with more than 50 entities which is the highest number since its foundation.

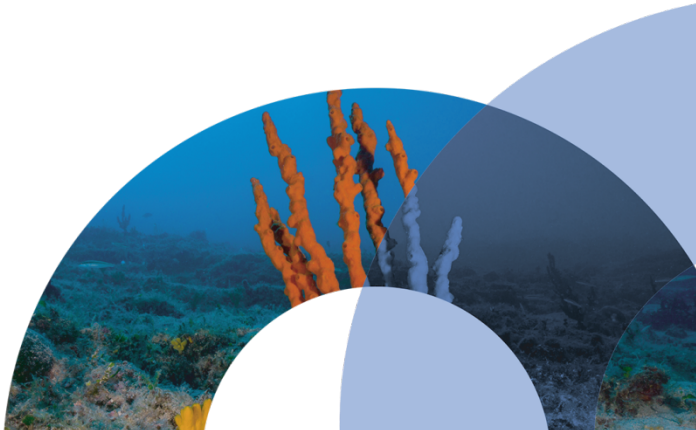
The organisation's network of collaborators can be found here.

Funders

In 2021, iSea expanded its network of funders which now includes a variety of Greek and foreign private Foundations, the European Union, the Greek Ministry of Environment and Energy and several businesses in the context of the Social Corporate Responsibility.

The diversification in the funding resources provided stability and liquidity which enabled the growth of the organisation in terms of number of employees (iSea in 2020 numbered 6 full time employees while in 2021 finished with 10 full time employees), external collaborators, equipment and facilities.

The organisation's network of funders can be found here.



Infrastructures

In 2021, iSea continued upgrading the office equipment of its headquarters with additions that improve the productivity of the employees, such as the purchase of a multifunctional printer, and of a printer toner. In addition, equipment was bought to improve the wellbeing of the personnel such as the purchases of an espresso machine and of a water cooler. All the additions are ensuring that the employees are having the best-possible working conditions, while purchased research equipment, like cameras and dive gear, are improving the capacity and quality of its activities, and open new fields of research for iSea.

The office equipment was refurnished, improving the working environment for the employees of the organisation, and providing the necessary space for safety health measures during the COVID – 19 pandemic. The new headquarters covers all the daily needs of the employees in order to perform their daily tasks more efficiently. Additionally, the new headquarters have separate rooms with laboratory equipment and a stereoscope for analyzing biological samples.

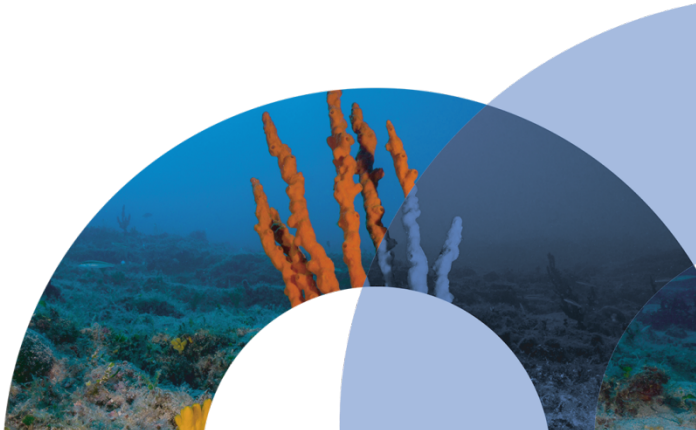
Additions in the equipment of iSea for 2021

Office equipment:
Fridge
Shelves
Water cooler
Espresso machine
Multifunctional printer
Printer toners
Security alarm
Cleaning equipment (professional hoover, mop etc.)
Whiteboard
Projector
Projection screen

Research equipment:
1 DSLR camera Canon 90D EOS
1 lens Canon 70-200 with stabilizer
1 camera bag
1 shark and 1 ray dummies
Equipment for *Posidonia oceanica* studies (100m measuring tapes for transects, slades etc.)
Additions to scuba diving gear such as gloves, weights, knifes, etc.

Other:
Two electric Peugeot 208 cars through leasing
Automatic invoices software
2 new 6T hard drives

The organisation's infrastructures can now host more employees, visitors or/and interns who can gain experience while working in an well equiped working space, characterised by health, safety and



well-being. The organisation complies with the General Data Protection Regulation (EC/2016/679) requirements and holds a backup server where all the databases and the internal documents are stored in a secure manner and access only by authorised personnel of the organisation. Indicative additions in the equipment of iSea are shown below.

Students-Internships

This year, iSea hosted nine students;

- One from the University of Sorbonne, who participated in the project *ByElasmoCatch* in the context of his Erasmus+ Placement/Internship;
- One student from the University of Patras who conducted a six-month internship participating in the project *ByElasmoCatch* while he further supported the coordination of the project *Is it Alien to you?.... Share it!!!;*
- Two students from the University of the Aegean who conducted a two-month internship participating in the project *Is it Alien to you? Share it!!!* and *Sharks and Rays in Gr and Cy*;
- One student from Aristotle's University of Thessaloniki who conducted a one-month internship participating in the project, *Is it Alien to you? Share it!!!;*
- Two students from the University of the Aegean, who conducted a two-month internship participating in the *Human and Aquatic Ecosystems and Aquatic Litter* pillars' activities of iSea;
- One student from the University of Aegean who conducted a two-month internship participating on social media and communication activities of iSea;
- One student from Edinburgh Napier University who conducted her thesis on elasmobranch imports and exports through the major auction markets of Greece, in the context of vulnerable species activities of iSea.

Volunteers

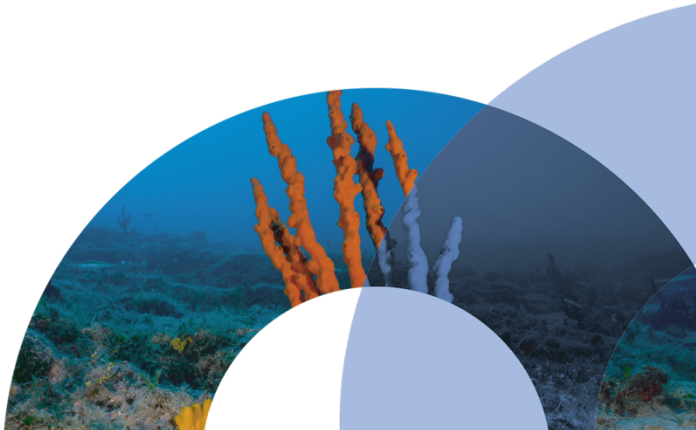
More than 50 trained volunteers are actively involved every week in the activities of the organisation, constantly representing iSea throughout Greece and contributing in many of its projects. Most of the volunteers are residents of Athens, Thessaloniki, Patra and Crete.

Indicatively, more than 300 individuals from different areas of Greece voluntarily participated in field activities of the organisation. Furthermore, the social media of iSea and the graphic design of reports and educational materials were supported by two volunteers with relevant backgrounds.

15 volunteers participated in data collection and management, the majority of them were involved with iSea's citizen science projects "Is it Alien to you?!...Share it!!!","Sharks and Rays in Greece and Cyprus" and "iNaturalist Gr".

In addition, 25 volunteers participated in the context of the "Know-Participate-Protect the environment" project. Based in different areas and coming from different fields and backgrounds. These volunteers work on different tasks according to their interests and are considered as collaborators until the end of the project.

Most of the volunteers are university students studying relevant degrees and expressing a high interest in environmental issues and the marine environment. A significant part of the volunteers



consists of extensive marine users. Due to their background, many of them have adequate knowledge on the marine topics. In iSea, those individuals are recognised as valuable members of the team and the society, and iSea staff members invest significant time in building their capacities and skills, and involving them in scientific research and publications.

Social Media and Website

The social media networks of the organisation grew significantly in 2021. More specifically:

- **Facebook:** From 15,405 followers in 2021 to 19,244 followers in 2021 (24.92% increase) with 591,848 reach per year.
- **Is it Alien to you? Share it!!! Facebook Group**: from 13,057 members in 2020 to 15,652 in 2021 (19.87% increase) with 13,961 active members.
- **Shark and Rays in Greece and Cyprus Facebook Group:** from 4,185 members in 2020 to 5,548 in 2021 (32.56% increase) with 4,101 active members.
- **Instagram**: from 1,680 followers in 2020 to 2,518 in 2021 (49,88% increase) with 23,035 reach per year.
- **Twitter:** from 1,007 followers in 2020 to 1,652 followers in 2021 (64.05% increase) with an average of 46,658 impressions per year.
- **LinkedIn**: from 244 followers in 2020 to 651 followers in 2021 (266,80% increase).

In 2021, the website was visited by **33,012 unique visitors**; 64.99% were from Greece, 15.85% from USA and 3.40% from Cyprus. Almost half of the users were females, and the majority of the users age' ranged between 25 to 54 years old. Facebook provided 92.89% of the total traffic of the website.

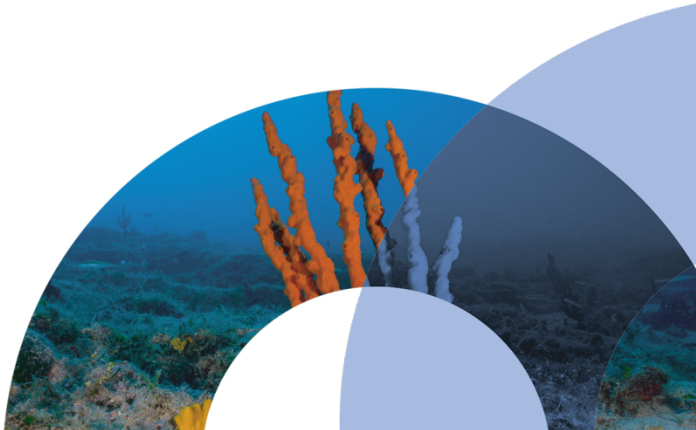
The (Greek) main page of the website was the section with the most visits with 11.06% of the users, followed by the "Chondrichthyans of Greece" subsection with 4.54% and "Our Team" with 3% of the visitors.

Scientific Publications

In 2021 iSea was very productive in terms of scientific publications. In detail, iSea led or participated in the publication of 18 scientific publications in peer-reviewed journals, with two more articles that are currently been accepted and they are under production, and three more which have been submitted. Regarding other types of scientific documents, iSea has participated in the publication of two action plans, published five scientific reports, communicated five articles in two international conferences, and has submitted three more articles in two international conferences. The vast majority of the publications were produced as part of the the Vulnerable Species pillar followed by publications of the Citizen Science pillar, the Aquatic Ecosystems pillar and last the Aquatic Litter pillar.

The five most cited scientific articles that iSea involved in the publication **for 2021** in peer-reviewed journals are the following:

- Kleitou, P., Crocetta, F., Giakoumi, S., Giovos, I., Hall-Spencer, J. M., Kalogirou, S., ... & Rees, S. (2021). Fishery reforms for the management of non-indigenous species. Journal of Environmental Management, 280, 111690. **(16 citations)**
- Borrell, A., Vighi, M., Genov, T., Giovos, I., & Gonzalvo, J. (2021). Feeding ecology of the highly threatened common bottlenose dolphin of the Gulf



of Ambracia, Greece, through stable isotope analysis. Marine Mammal Science, 37(1), 98-110. **(12 citations)**

- Kleitou, P., Hall-Spencer J.M., Savva, I., Kletou, D., Hadjistylli, M., Azzurro, E., Katsanevakis, S., Antoniou, C., Hadjioannou, L., Chartosia, N., Christou, M., Christodoulides, Y., Giovos, I., Jimenez, C., Smeraldo, S., Rees, S. (2021). The case of lionfish (Pterois miles) in the Mediterranean Sea demonstrates limitations in EU legislation to address marine biological invasions. Journal of Marine Science and Engineering. 9(3), 325. **(9 citations)**
- Crocetta, F., Shokouros – Oskarsson, M., Doumpas, N., Giovos, I., Kalogirou, S., Langeneck J., Tanduo, V., Tiralongo, F., Virgili, R., Kleitou, P. (2021). Protect the natives to combat the aliens: Octopus vulgaris Cuvier, 1797 as a natural agent for the control of the lionfish invasion in the Mediterranean Sea?. Journal of Marine Science and Engineering, 9(3), 308. **(8 citations)**
- Milazzo M., Cattano C., Al Mabruk S.A.A., Giovos I. (2021) Mediterranean sharks and rays need action. Science, 371(6527), 355-356. **(5 citations)**

The five most cited scientific articles of iSea published in peer-reviewed journals, irrespective of publication date, are the following:

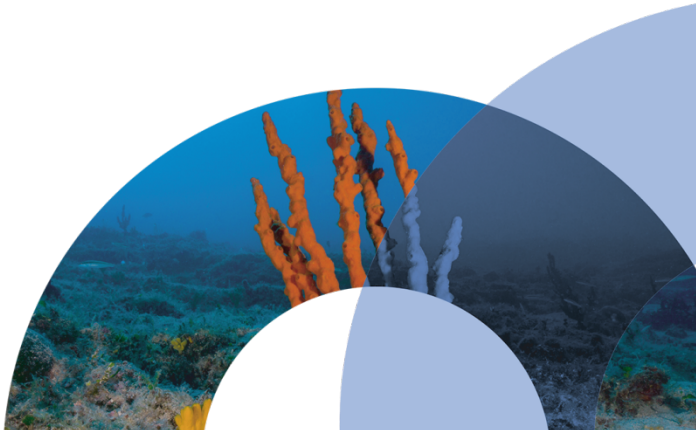
- Giovos I., Kleitou P., Poursanidis D., Batjakas I. , Bernardi G., Crocetta F., Doumpas N., Kalogirou S., Kampouris TE, Keramidas I., Langeneck J., Maximiadi M., Mitsou E., Stoilas V_O., Tiralongo F., Romanidis-Kyriakidis G., Xentidis NJ., Zenetos A., Katsanevakis S., (2019). The importance of citizen-science in monitoring marine invasions and stimulating public engagement – A case project from the Eastern Mediterranean. Biological Invasions. 21(12): 3707–3721 **(63 citations)**
- Giovos, I., Keramidas, I., Deidun, A., Font, T., Kleitou, P., Lloret, J., Matić-Skoko, S., Said, A., Tiralongo, F., Moutopoulos, D.K. (2018). Identifying Recreational fisheries in the Mediterranean through Social Media. Fisheries Management and Ecology, 25(4): 287-295. **(39 citations)**
- 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. **(31 citations)**
- Giovos, I., Stoilas, V.S., Al Mabruk, S.A.A., Doumpas, N., Marakis, P., Maximiadi, 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. **(30 citations)**
- Giovos, I., Arculeo, M., Doumpas, N., Katsada, D., Maximiadi, M., Mitsou, E., ... & Tsamadias, I. E. (2020). Assessing multiple sources of data to detect illegal fishing, trade and mislabelling of elasmobranchs in Greek markets. Marine Policy, 112, 103730 **(26 citations)**

The full list of iSea's scientific publications can be found here.

Beneficiaries

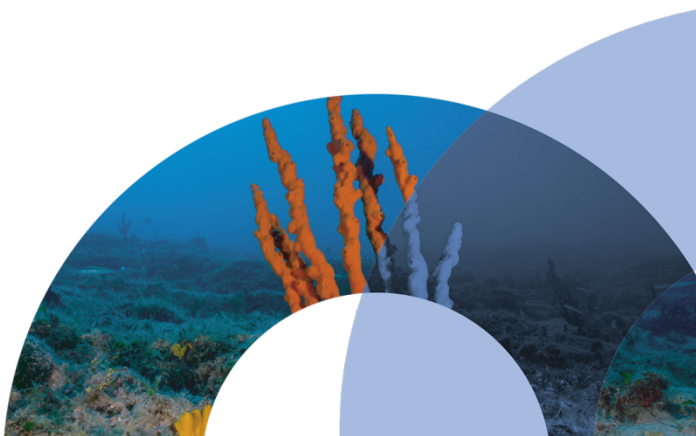
Beneficiaries: Estimated stakeholder groups and individuals actively involved and benefited from iSea's actions

School students and educators: 400
University Students: 434
Tourists and tourism industry: 3,000
Port authorities: 36



Municipal authorities: 45
Management bodies: 11
Recreational fishers: 10,200
Professional fishers: 350
Divers: 250
Diving centers: 40
Scientists: 4,000
Social media users: 600,000
Citizen scientists: 17,000

TOTAL: 635,766.00



VULNERABLE SPECIES REPORT

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VULNERABLE SPECIES DEPARTMENT

Biodiversity is fundamental for healthy ecosystems. The marine environment comprises about 90% of the habitable space on the planet and hosts most of the world's biodiversity. However, marine species are far less studied than terrestrial ones and their extinction rate is probably higher than can be estimated. In the Mediterranean, human activities in the coastal zone and unsustainable resource exploitation have led to habitat degradation and the collapse of the populations of many marine species as a result of other extractive human activities. More specifically, it is estimated that more than 1912 marine species are threatened with extinction, many of which are endemic. Limited knowledge of Mediterranean populations indicates that the problem is likely more acute, as 1/3 of marine species cannot be assessed due to insufficient data. According to the United Nations Sustainable Development Goal 14, "Life on Water", sustainable management and protection measures for marine and coastal ecosystems must be taken for achieving the goal of healthy and productive oceans. But time is running out and the scenarios for the future are unfavorable. In this context, iSea aims to increase and disseminate existing knowledge about vulnerable species in order to enhance science-based management and ensure their conservation, protection, and recover to the extent that they fulfill their ecological role in achieving healthy and functional ecosystems.

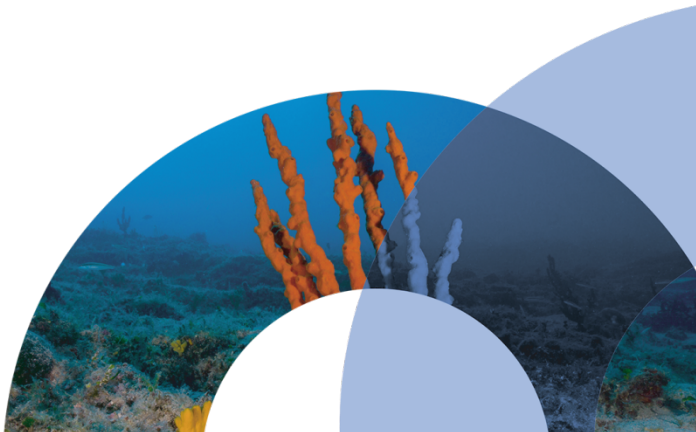
2021 OVERVIEW

The year 2021 was another important year for iSea's vulnerable species pillar. The organisation managed to expand its activities, integrating multiple sources of data and not relying only on fisheries' dependent data, and expanded its focus on other vulnerable species beyond elasmobranchs such as cetaceans and seagrasses. The projects conducted during 2021 are described below.

By ElasmoCatch

The project By ElasmoCatch focuses on studying the elasmobranch fisheries in the North Aegean with a special focus on discarded non-commercial species. The goal of the project is to collect data on the species level, for all elasmobranch species that are captured by different fishing gears in the North Aegean. The project started in 2020 and continued in 2021, although focusing on small scale fisheries in the latter year.

More precisely, the iSea team visited 13 ports of Chalkidiki Peninsula, conducting questionnaire surveys on the elasmobranch bycatch with artisanal fishers from 92 different vessels, and questionnaire surveys on the fishing effort with artisanal fishers from 153 different vessels. The above number of vessels covered approximately 38% of the registered artisanal fleet of Chalkidiki.



A new study found underreported catches of threatened elasmobranchs in Greece.

Region Update: Mediterranean

Written by Ioannis Giovos

IUCN SSC Shark Specialist Group | Mediterranean Regional Group | Member
iSea, Environmental Organization for the Preservation of the Aquatic Ecosystems, Thessaloniki, Greece
Department of Animal Production, Fisheries & Aquaculture, University of Patras, Mesolongi, Greece
Department of Biology, University of Padova, Via U. Bassi 58/B, 35131, Padova, Italy

The level of elasmobranch exploitation in Greece is heavily underreported as sharks and rays are recorded in aggregated categories or misreported once fished, landed and sold. Small-scale fisheries are heavily unmonitored in the country, while most of the elasmobranch's products that enter the market chain are sold mislabeled. This work approaches the actual state of elasmobranch exploitation in Greece while providing insight into mislabeling and draws guidelines for improving their conservation in the country.

New collaborative research, led by iSea, was recently published in the *Journal of Ocean and Coastal Management*. The study aimed at addressing the real state of elasmobranch exploitation in the Mediterranean, with a deep insight into fisheries and trade in Greece.

Like elsewhere in the Mediterranean, the impact of fisheries on elasmobranch populations is understudied due to the lack of data, as elasmobranch catches are reported in aggregated categories, with misidentifications and intentional mislabeling being quite common, while law enforcement and compliance is relatively low in the basin.

The questionnaires aimed to broaden our knowledge regarding the impacts of fisheries on the elasmobranch population of the selected area, but also to produce important information regarding their biology and ecology. More specifically, the questions focused on:

- the species most commonly bycaught, their conservation status and the seasonality of bycatch;
- the fishers' attitude towards the species bycaught;
- the relation between the species caught and the type of gear used by each vessel;
- and general (including demographic) information on each fisher and vessel participating in the study.

Results of the project will be presentedin the 2022 European Elasmobranch Association Meeting and are compiled in a scientific manuscript, namely 'Elasmobranch bycatch in the North Aegean small-scale fisheries', which is expected to be published in 2022. Also, there is an existing collaboration discussing with colleagues from Croatia and Italy, conducting similar work, that aims to merge the data from the two studies for a joint publication.

The project was funded by Ocean Care and implemented by iSea, under the guidance of Dr. Dimitrios Moutopoulos, professor of Department of Animal Production, Fisheries and Aquaculture, University of Patras.

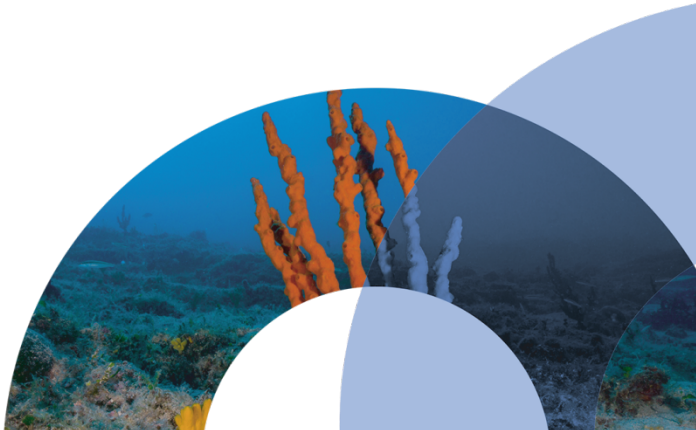
You can find more about the project here.

Updating of the Greek National Chondrichthyans Checklist

iSea, in collaboration with IUCN Shark Specialist Group, has undertaken the update of the national checklist of chondrichthyan species of Greece. Chondrichthyans (sharks, batoids, and chimaeras) have been present in the seas of our planet for almost half a billion years and are comprised of more than 1,250 species.

Their importance to marine ecosystems is enormous as most of them are top predators, thus maintaining balance within marine food networks. At least 63 species of chondrichthyans are found in Greek seas; nevertheless, our knowledge about their exact number and distribution is limited.

The aim of this project was to prepare an updated national checklist of chondrichthyans that will contain all species reported from the Greek seas.



In 2021, the following actions were undertaken:

- Literature review and collection of all data about related to chondrichthyans' species presence in the Greek seas;
- two round tables and workshops with Greek chondrichthyan researchers;,
- Publication of an e-book that includes the new official national checklist and information for each species in Greek and English;
- Printing of hard copy versions of the checklist were printed and distributed among competent authorities and stakeholders.

The project "Updating the Greek National Chondrichthyans Checklist" was funded under the financial programme of the Green Fund "Natural environment & innovative environmental actions 2020" by the priority axis "Actions to Conserve Biodiversity" and was implemented by iSea in collaboration with the IUCN Shark Specialist Group.

You can find more about the project here.

Angel Shark Project Greece

The Angel Shark Project: Greece is an umbrella project of all activities in Greece related to the conservation of the species with an overall aim to investigate the importance of the Greek side of the Aegean Sea for all three angel shark species present in the Mediterranean (*Squatina aculeata, Squatina oculata, Squatina squatina*)

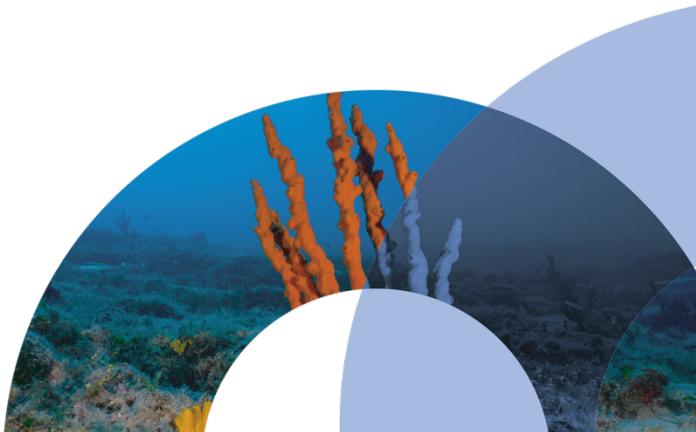
Projects implemented with the support of the Angel Shark Project Greece are (i) Strengthening Angel Shark Conservation in the Southern Aegean Sea and (ii) Monitoring Threatened Elasmobranchs in South Aegean.

This collaborative project was led by iSea and supported by La Universidad de Las Palmas de Gran Canaria, The Zoological Research Museum Alexander Koenig , Zoological Society of London, and Shark Trust.

For more information visit: https://isea.com.gr/angel-shark-project-greece/?lang=en

Monitoring threatened Elasmobranchs in South Aegean

The main goals of this project were to improve the understanding more about the population, the relative abundance, the activity patterns and the home range of guitarfish (*Rhinobatos rhinobatos* and *Glaucostegus cemiculus*) and *Gymnura altavela* in selected areas of Kos Island, by collecting both quantitative and qualitative seasonal data and information on the current and past presence of angel sharks (*Squatina aculeata*, *Squatina oculata*, *Squatina squatina*) around Kos Island, utilizing the local ecological knowledge of marine users.



The project facilitated the first non-fisheries dependent data in Greece from highly threatened elasmobranch species, investigated a potentially critical area for the selected species, and learned more about their biology and ecology. It also provided the baseline knowledge that can help the authorities to develop adequate management plan for the species populations in the area. In addition, the data will feed the efforts for the Sub Regional Action Plan for the Conservation of Angel Sharks in the Eastern Mediterranean and the Global Action Plan for the Conservation of Rhino Rays and other relevant projects.

Underwater Visual Census (UVC) and Baited Remote Underwater Video Systems (BRUVS) surveys were conducted on a seasonal basis to monitor the guitarfish and *Gymnura altavela* in selected areas around Kos. Questionnaire surveys were also conducting utilizing the local ecological knowledge of the island.

The project «Monitoring Threatened Elasmobranchs in South Aegean» is implemented by iSea with the support of Florida University and funded by SaveOurSeas.

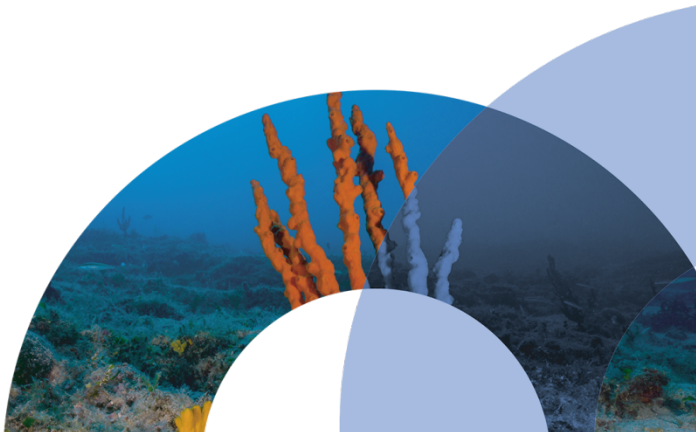
Find more about the project here.

Strengthening Angel Shark Conservation in the Southern Aegean Sea

Strengthening Angel Shark Conservation in the Southern Aegean Sea

Three angel shark species are present in the Mediterranean, Sawback Angelshark (*Squatina aculeata*), Smoothback Angelshark (*S. oculata*), and Angelshark (*S. squatina*), all classified as Critically Endangered in the International Union for Conservation of Nature Red List of Threatened Species due to past population reductions and several local extinctions.

The recent discovery of several records of angel sharks in Cyclades and Dodecanese Islands, indicate that the area is potentially highly important for all three species. The aim of the project was to improve and strengthen the conservation of angel sharks in Greece, and to advance elasmobranch conservation in the country. Through this project



further research was conducted to support future angel shark conservation actions and policies. The project kicked-off at the beginning of September 2020 and ended in December 2021.

In the frame of this project the following actions were implemented:

1. angel shark sighting data collection was conducted in September-November (inclusive) of 2020 by (a) requesting and acquiring access to data from the Angel Shark Sightings Map, (b) launching a call to action targeted at sea users at iSea's social media to request evidence and photographs of angel sharks from the public, (c) developing questionnaires and conducting relevant surveys with fishers as well as diving centers in the Cyclades and Dodecanese islands (via phone, email, and in person contact), and (d) emailing the appropriate authorities to request access to data from the National Fisheries Data Collection Programme (DCF),
2. the identification of potential Critical Angel Shark Areas and prioritization of conservation activities at key areas that lack sufficient protection was conducted in November-December (inclusive) 2020 by an external collaborator using species distribution modelling,
3. five capacity building workshops on angel shark identification, good practices, and data collection, targeted towards competent authorities and local stakeholders took place in 2021,
4. translation and distribution of angel shark handling guides and identification plates were conducted in 2021, but initial tasks pertinent to this action took place on September 2020 (i.e. identifying relevant material, contacting owners of said material to acquire authorization to use them)
5. two meetings with the competent Ministry and all relevant national authorities for discussing the adoption of the MedRAP and the SubRAP 22/23 and the transposition of the Recommendation GFCM/42/2018/2 took place in 2021.
6. a Layman's report about the distribution of angel sharks in Greece was published and priority areas for the species were highlighted.

The project was implemented by iSea, with the support of the Shark Trust, in collaboration with the Angel Shark Project, and funded by the Shark Conservation Fund.

Find more about the project here.

Alliance for Survival II

The project "Alliance for Survival II" aimed to improve the stakeholder's awareness on the need to protect sea turtles, sharks and batoids. The project actions were based on three main pillars:

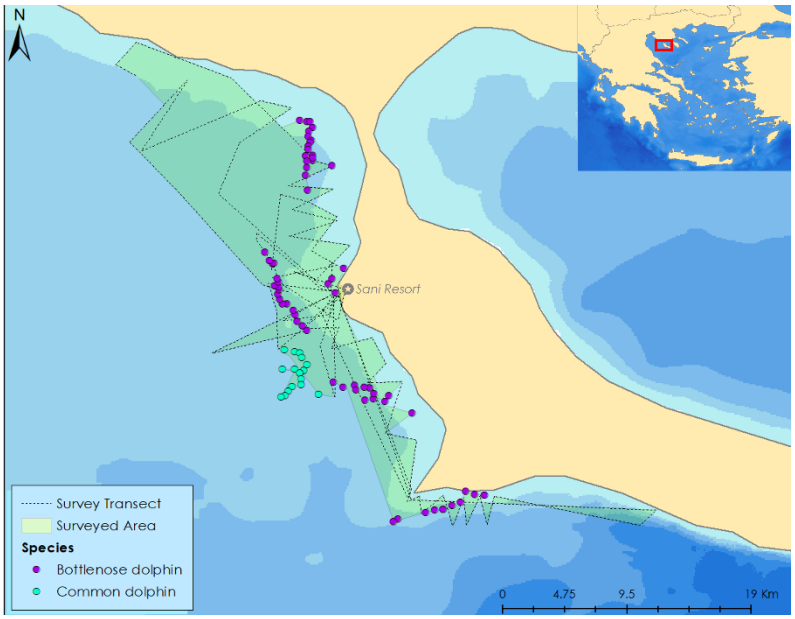
- Amplification of the existing knowledge and empowerment of all fishery stakeholders (port authorities, auction markets, fishery authorities, professional and artisanal fishers etc) regarding the legislation regulating the protection of sea turtles, sharks and rays in Greek waters.
- Capacity building of all fishery stakeholders (port authorities, auction markets, fishery authorities, professional and artisanal fishers etc.) on identifying vulnerable species (sea turtles, sharks, rays), and safe release and handling techniques when incidentally caught using realistic models of the focused taxa. This was accomplished by implementing workshops in 10 Greek ports: Kalloni (Lesvos), Alexandroupoli, Kavala, Nea Michaniona (Thessaloniki), Alonissos, Piraeus, Kiato, Kyllini, Preveza and Corfu.
- Sensitization of the public with a focus on consumers with respect to unsustainable fishing practices and their negative impact on vulnerable species, and how they can contribute to the imposition of the legal framework.

The project "Alliance for Survival II" was funded under the financial programme of the Green Fund "Natural Environment and Innovative Actions ", Strand "Natural Environment Management Actions", Measure "Innovative Actions with Citizens", and implemented by iSea, MEDASSET HELLAS and the Department of Animal Production, Fisheries and Aquaculture of the University of Patras.

Find more about the project here.

Thermaikos Dolphin Project

This project was the first systematic effort for monitoring the populations of cetaceans in Thermaikos Gulf, which is heavily understudied in terms of cetaceans, and it is likely to be a key region for them. The Thermaikos Dolphin Project consisted of a systematic study on Thermaikos Gulf's cetaceans based on field visual surveys on predefined transects and photo identification. In total 10 surveys were conducted from May to December.



During the surveys two dolphin species were encountered, namely the Endangered common bottlenose (*Delphinus delphis)* and the short-beaked common dolphin (*Tursiops truncatus*)(see map). Except, the presence and the photographic data, information about the size of the group and their behavior were also collected.

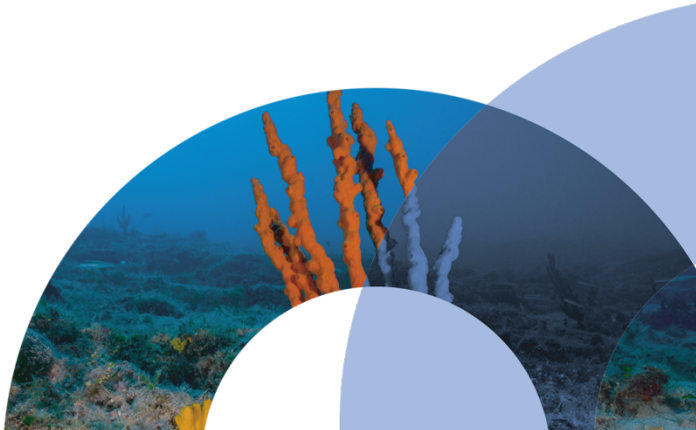
The second part of the project consisted of environmental education activities. Specifically, iSea team conducted workshops for teenage and school-aged children about marine mammals and their value of the local marine environment. In total, 15 workshops were implemented by iSea. The activities included table puzzles and games, presentation of informative material from different cetacean species and photo ID activities from developed catalogues and colouring pages.

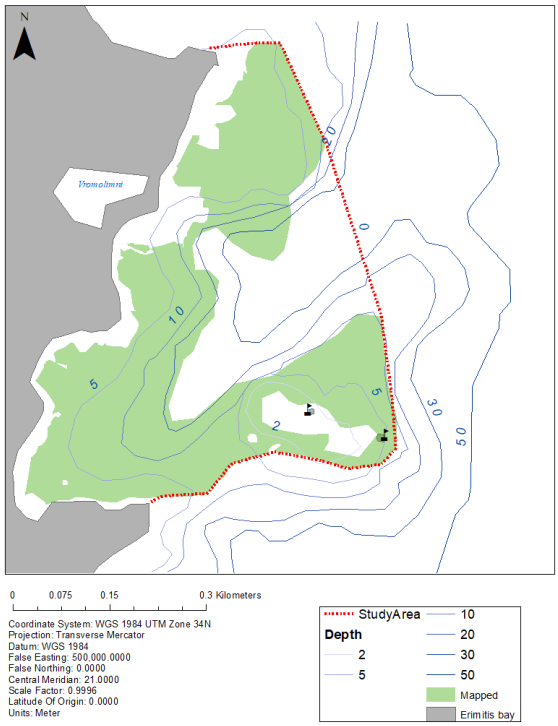
The project was implemented by iSea with the support of Sani Resort and in collaboration with the Tethys Research Institute, the University of Patras and ARION.

Find more about the project here.

REPOSIDONIA

The project REPOSIDONIA is an umbrella project and includes all the activities that iSea is implementing, concerning the species *Posidonia oceanica*. The main objective of the project is to contribute to the management and protection of the seabeds with Posidonia meadows. More specifically, the project focuses on developing innovative awareness-raising tools, mapping the meadows in specific areas, and assessing their health.





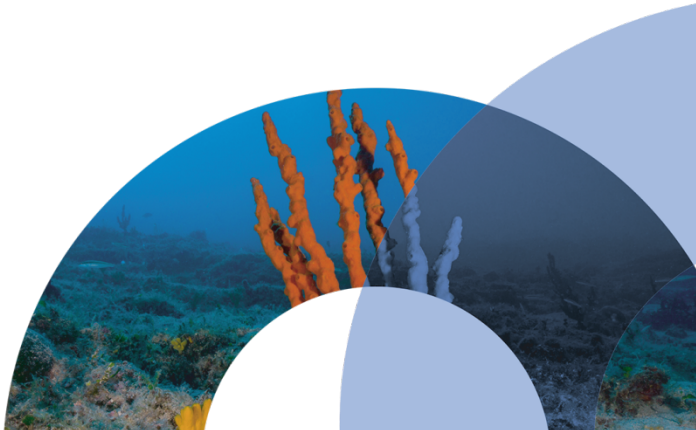
Since the REPOSIDONIA launched, two sub-projects were implemented under its scope. The first concerned the development of the 'REPOSIDONIA Photobook'. The photobook consisted of material about *P. oceanica,* including information on the species biology, its ecosystemic value and photos of common species that can be found inhabiting *P. oceanica* meadows in Greece. The photobook was assembled with the purpose of being distributed in coastal areas in the proximity of beaches with *P.oceanica* meadows with high tourist traffic, as an awareness rising tool. The content was a product of the collaboration of iSea and Dr Dimitris Poursanidis. The project was implemented with the support of KYMA sea conservation and research.

The second project aimed to map the *P. oceanica* meadows in the Northeast Corfu island in Erimitis peninsula, and record the species that are found in the meadows. The area was chosen due to development plans that are proposed at the Erimitis peninsula, and the purpose was to assess the meadow health to create a baseline and assess the impact of the above-mentioned plans. The output results yielded by the mapping process was a cohesive meadow covering an area of 15.7465 hectares (see map).

The biodiversity assessment resulted in a list of 82 different species belonging in 10 different Phyllums. In particular, 43 fishes of fish (Actinopterygii), 10 species of plants and 29 other animal species were observed.

The project was funded by the Ionian Environment Foundation and implemented by iSea with the support of ERIMITI PLOUS.

Find more about the project here.



CITIZEN SCIENCE REPORT

CITIZEN SCIENCE DEPARTMENT

Citizen Science is the practice of involving citizens in scientific research to increase the scientific knowledge. Through Citizen Science, people share and contribute to data monitoring and collection programs, providing important scientific information in a cost effective and efficient manner. Citizen Science projects related to biodiversity and the natural environment have the potential to 1) provide massive data spatiotemporality that can contribute to the rapid and science-based decision-making for the management of natural resources, 2) enhance environmental awareness and the environmental literacy of the participants, through the continuous information they receive and the relationship they cultivate with the natural environment, 3) to provide information that will be used for the creation of problem-solving strategies. For the last five years, iSea has been successfully implementing two Citizen Science projects on marine biodiversity, the "Is it Alien to you… Share it!!!" and the "Sharks and Rays in Greece and Cyprus", while now, with the support of the Goulandris Museum of Natural History, iSea manages iNaturalistGR, the "gateway" of Greece to the iNaturalist community and the largest group of citizen science in the world!

2021 OVERVIEW

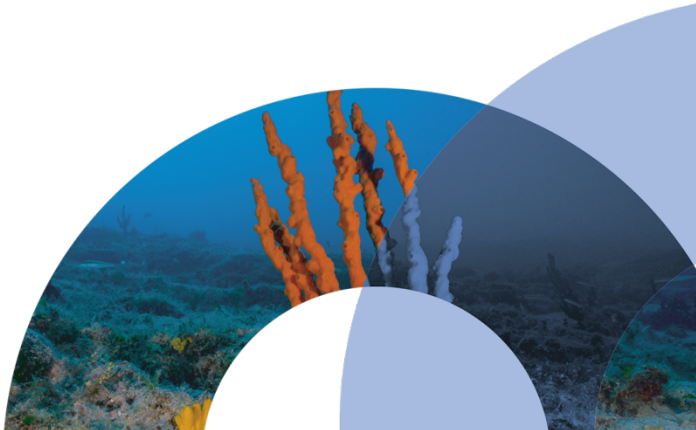
In the previous years, Citizen Science was used as a mean for gathering data in other pillars such as fisheries. By acknowledging its importance, iSea established Citizen Science as one of the core pillars of the organisation. The plan for the following years is to enhance existing programs under joint protocols and databases, develop short term projects that can enhance data collection efficiency and reliability, and engage more sea users and volunteers in the activities of the pillar.

iNaturalist Greece

In 2021, iSea conducted an assessment of iNaturalist's regional boundaries in Greece (i.e. Prefectures of Greece and Administrative regions of Greece) using official national maps, and concluded that everything is up to date. As far as Protected Areas' boundaries are concerned, an assessment was conducted and it was concluded that there are some National Parks and Protected Areas that were not included on iNat. As a next step, these boundaries will be updated too. An initial assessment of existing common names for marine alien species as well as elasmobranchs was conducted, however this is an ongoing process since species have different common names at different locations in Greece. For this reason, we are also seeking funding to conduct a more comprehensive survey to include all local names, and preserve the tradition behind these names.

Since April 2021, when iNatGR was launched, iSea has been actively seeking to promote it and to explain how it can be used through presentations that were addressed to different audiences.

- Two presentations were conducted as part of events hosted by the Scouts of Greece (a strategic partner), one as part of their Wildlife Rescue educational workshops and one as part of an event they hosted for World Biodiversity Day.
- One presentation conducted as part of Thermaikos Gulf Protected Areas



Management Authority's activities in the frame of World Environment Day.
- One presentation and hands-on demonstration of how the platform works as part of Hellenic Biodiversity Center's 3rd Citizen Science Summer School (video can be seen here).
- A presentation and a Bioblitz as part of the Day of European Cooperation 2021 (organized by the Interreg VA Greece – Cyprus Program "2014- 2020"), informational materials were also distributed.
- A brief in-person presentation about iNatGR and hand out of relevant informational material at Thermaikos Gulf Protected Areas Management Authority's event "eco-Festival".
- An educational presentation and demonstration on iNaturalist conducted in the Environmental Education Centres in Thessaloniki and Kilkis (Northern Greece).

A printed flyer was produced with translated information about how one can use iNaturalist and what iNatGR is. Additionally, a brochure was created, in Greek, with information on iNaturalist, iNaturalist Greece, Bioblitzes, citizen science and tips for observing and recording biodiversity.

Axios National Park Bioblitz

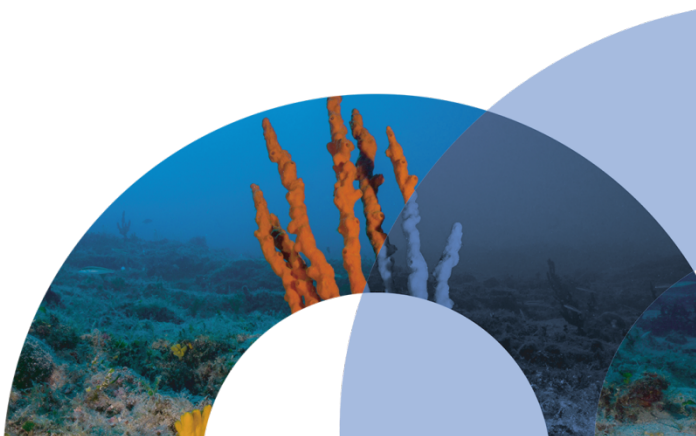
In the context of MIO-ECSDE's Mediterranean Action Day 2021 (MAD2021), iSea organized and hosted a Bioblitz event at Axios-Loudias Aliakmonas National Park (in short Axios Delta National Park), a coastal protected area that hosts a large number of species and unique ecosystems, many of them protected and/or threatened, which also includes the EU - Natura 2000 site "DELTA OF THE AXIOSLOUDIAS ALIAKMON-BROADER REGION OF AXIOUPOLI" (SiteCode: GR1220002).

The Bioblitz was accompanied by an informational webinar that was realised a few days before the main event. Prior to the events promotional and informational materials with the help of a Graphic Designer were developed and published. The materials included a Poster for the event, a colouring page / invitation for children, an Agenda for the webinar, an informational leaflet and a Poster with the Results of the Bioblitz. A webpage dedicated to this project was also developed within iSea's website. In total, 19 citizen scientists were participated, contributing 233 observations of 101 species, while 78 identifiers were involved from the iNaturalist community.

Find more about the project here.

Sharks and Rays in Greece and Cyprus

This project aims at gathering additional data on the occurrence of sharks and rays in Greece and Cyprus to improve and strengthen the existing knowledge through citizen science. To achieve this, information material has been published such as the translation of the identification guides for the Mediterranean protected shark species. The project is a part of a wider initiative the M.E.C.O.



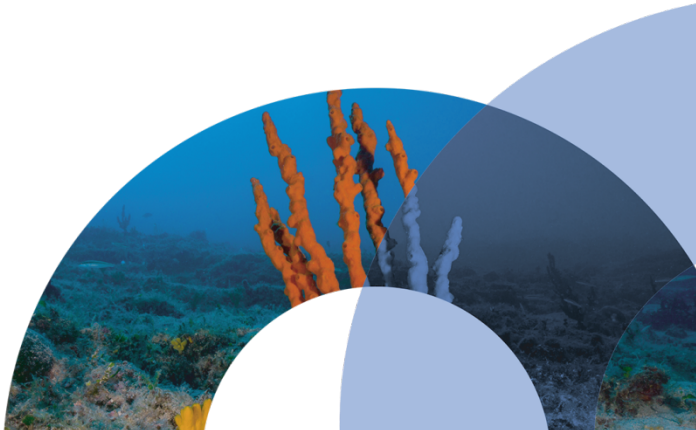
(Mediterranean Elasmobranchs Citizen Observations), which is a Mediterranean initiative that aims to create a network of Mediterranean elasmobranch sightings data, through a collaboration between different teams in various countries, to better understand the occurrence, seasonality and distribution of elasmobranchs in this region. The records are gathered using a Facebook group in which citizen scientists upload their observations and a team of experts ask them for specific information about the observation and once the identification is verified the record is collected.

The project was launched in 2017 and is ongoing with more than1500 records of chondrichthyans for Greece and Cyprus while this year contributed in major publications and projects, like the National Greek Chondrichthyan List and the relevant scientific publication from Cyprus. At the same time, the Facebook group numbers 5.6 thousand members.

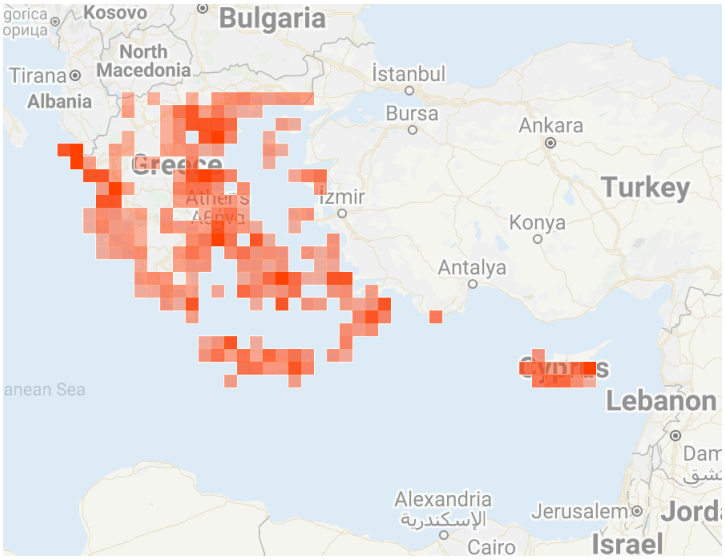
Find more about the project here.

Is it Alien to you? Share it!!!

The project Is it Alien to you? Share it!!! Is the most successful citizen science project of Greece in regards to the marine environment engaging thousands of people and collecting vast amount of information that led to over 10 scientific publications. Until 2020, the project aimed to monitor the expansion of the already established alien species in Greece and in Cyprus utilizing an extended network of citizen scientists. Since 2021, the project transformed and broadened focusing now on the



study of marine species in Greece, but also in neighboring countries in the Eastern Mediterranean and especially Cyprus. A list of species has been prepared, including alien species, threatened species, protected species, exploited species, indicator species and rare species.



This transformation took a significant amount of time, and the result is that it is now communicated well to the citizen scientists that contribute to the project and therefore the results are mediocre for 2021. With 500 new observations the project managed to contribute to five new scientific publications this year.

Find more about the project here.

HUMAN AND AQUATIC ECOSYSTEMS REPORT

www.isea.com.gr

HUMAN AND AQUATIC ECOSYSTEMS DEPARTMENT

Aquatic ecosystems are an integral part of human history, contributing to the survival and evolution of human communities. The human relationship with aquatic ecosystems evolved and changed rapidly from era to era. A significant percentage of the world's population lives in coastal ecosystems and depends heavily on the ecosystem services they provide. Exploring these relationships over time is a new innovative branch of science that can effectively contribute to finding solutions for today. At iSea we believe that the study of the interaction that Greek local communities have historically had with aquatic ecosystems can help to better understand the social factors related to conservation and management and contribute significantly to the development of more effective practices.

2021 OVERVIEW

The year 2021 was an important one for iSea's environmental education and awareness raising projects and actions. Even though the measures against the pandemic continued to hinder the public engagement and participation, since the number of events and visits in education entities were limited, iSea managed to expand its activities by implementing projects with broader topics and targeted groups, but also by managing to complete outputs with increased impact. The projects conducted during 2021 are described below.

Learn-Participate-Protect the environment

Iceland Liechtenstein Norway grants **Active citizens fund**

This project, conducted in the context of Active citizens fund programs in collaboration with The Green Tank aims to promote, strengthen, and shield the participation of citizens in processes related to the creation and implementation of environmental policies in Greece, with emphasis on climate crisis, biodiversity loss and plastic pollution.

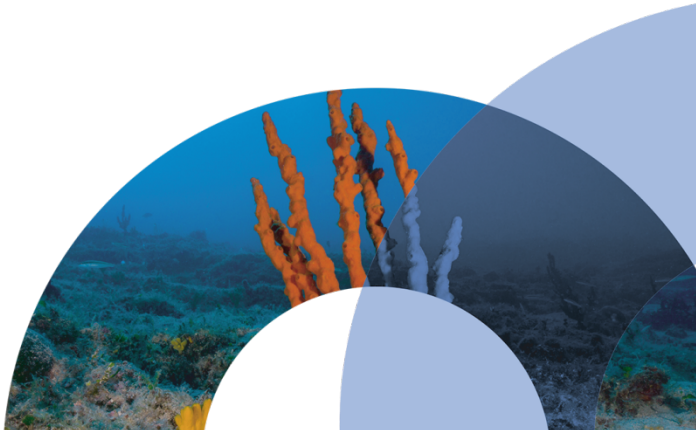
In order to address the lack of citizen participation in the public it is organized through three central axes:

- inform citizens on the environmental issues climate crisis, biodiversity loss and plastic pollution and how policy is affecting them,
- train citizens on how to participate in policy making,
- educate citizens on how to use mass media and promote volunteering.

On Monday, June 28, 2021, the kick-off event of the project took place.

The project focuses on people that already had the knowledge or interest for environmental issues. Their participation in environmental governance has a major positive impact on preserving the environment and enhancing their long-term involvement is vital. However, baseline information on the three selected environmental issues will be provided for all interested citizens.

The activities of the project consist of two cycles of educational activities that include webinars and seminars (Autumn 2021 – Spring 2022 and Autumn 2022 – Winter 2023).



- 3 Introductory Webinars (About (i) Climate Crisis, (ii) Biodiversity Loss, (iii) Plastic Pollution),
- 4 Training Seminars (in Athens, Thessaloniki, Patras, Volos, Xanthi, Mytilene, Heraklion, Zakynthos),
- 2 Training Webinars (Best use of mass media, good examples of volunteering & citizen interventions).
- 3 Introductory Webinars also took place (one on each topic) on November and December, 2021, and more than 150 people participated.

Facebook group: It was created on the 25th August and today itnumbers 925 members with an average of 140 reach per month

Find more about the project here.

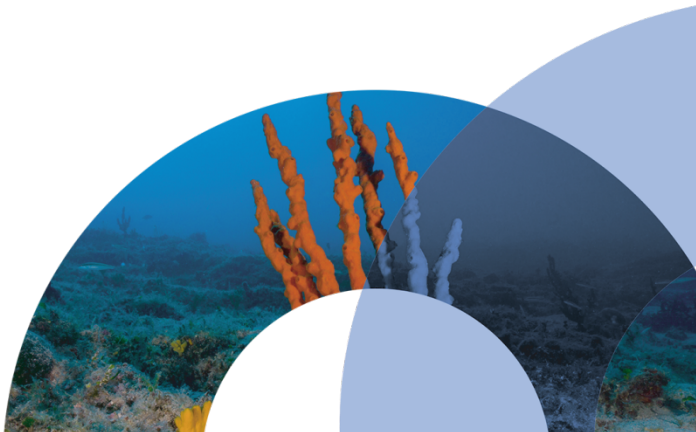
MARINE Education and Communication network on the MEDiterranean

MARINE_ECOMED

An Erasmus+ Project in collaboration with universities and organisations through the Mediterranean, to foster education and research through a strategic partnership. The MARINE_ECOMED Project is framed to enhance research and cooperation within the Mediterranean region in the field of sustainable management of marine and coastal areas through the development of innovative communication and education strategies.

The Project enhanced the integration of professional experiences and approaches in 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.

The main outputs of the project included Long Distance Learnings, Intensive Study Courses, the creation of a Handbook on Marine Education and Communication in the Mediterranean, and the production of a Massive Open Online Course on the Planning and Management of Marine and Coastal Areas.



This year, two Intensive Study Programmes were held. The first one took place in Thessaloniki with the participation of 25 students, and the second one in Venice with the participation of 15 students. During the Intensive Study Programmes, participant students were attending lectures from the partner institutions and were working on the Marine Spatial Planning of Thermaikos Gulf and Venice Lagoon. The final output of students' work was a planning and management proposal of each area based on the guidelines and the knowledge they gained, as well as based on data provided to them for each area.

Each Intensive Study Programme was followed by a Multidisciplinary event, where local stakeholders and experts were invited to contribute to the public's knowledge on local issues, and take action for the marine environment's sustainability and planning. In 2021 a total number of 100 people attended the events and got informed about the area of Thermaikos Gulf and Venice Lagoon. Students attending the workshop also presented their final outputs and Marine Spatial Planning proposals for each of the areas of interest correspondingly.

In addition, a Massive Open Online Course was launched including all the lectures provided during the Academic and the Ocean Literacy Trainings, as well as a Handbook including best practices on the education and communication of Marine Spatial Planning in the Mediterranean. iSea contributed to the Massive Open Online Course by providing lectures on the:

- Historical interaction of human communities and the coastal environment
- Science communication: strategies and tools
- Empowerment strategies to enhance environmental awareness
- Assessment of awareness/perception among population on environmental issues
- Innovative technologies to collect data and raise awareness
- New technologies supporting data collection and public awareness for enhancing Ecosystem Based Management

The project was implemented in collaboration with the Iuav University of Venice, Aix-Marseille University (AMU), Aristotle University of Thessaloniki (AUTh), SUBMON and Tethys Research institute.

Find more about the project here.

Riskman

RiskMan is an Erasmus+ project funded by the European Union and aims to promote the education of stakeholders and high education in the field of risk assessment of non-native (NN) species, and to stimulate research and cooperation on the management of NN species in the Western Balkan Region.

At the same time, the project aims to strengthen the cooperation between the consortium partners but also between the stakeholders and higher education institutes.

To achieve this aim, the specific objectives of the project are:

- Update the skills of the higher education system about the management of aquatic NN species in the partner Countries of Western Balkans in line with the international directives given by FAO, IUCN and the strategies of European Policy Cooperation.
- Support the Partner Countries to address the challenges facing their higher education institutions and systems concerning the management of NN species, including risk assessment, stakeholders' participation, planning and governance of aquaculture facilities and industries. Promote communication and awareness of stakeholders (students, workers in aquaculture and tourism sectors, and fishers) about the threat posed by NN species to biodiversity.
- Promote voluntary convergence with EU developments in higher education and fisheries industry and contribute to cooperation among the Consortium Partners on the management of NN species. Develop a risk management model for NN aquatic species for Western Balkans. Produce a policy framework for creating new occupation through the suggestion of the new position "Risk Manager".

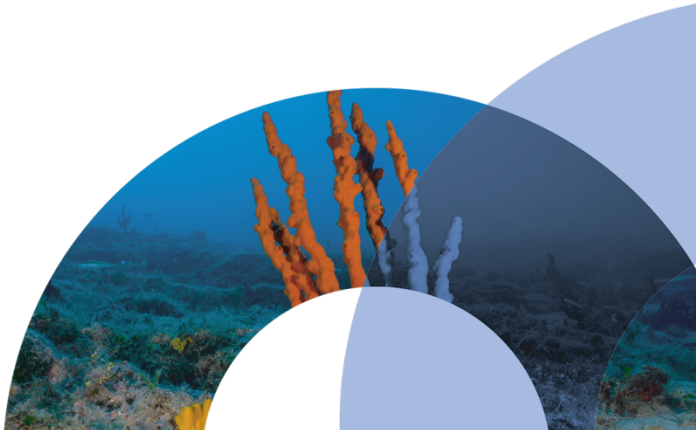
During 2021 all the actions of the projects were implemented remotely. iSea participated in the Consortium Meetings contributing to the coordination and the implementation of the project's activities.

iSea is participating in the project along with Mugla Sitki Kocman University, University of Palermo, University of Zagreb, University of Sarajevo, University of Montenegro, University of Bihać, Hydrobiological Institute of Ohrid, Association for ecology EKOMENLOG of Ohrid, Albanian Center for Environmental Protection and Sustainable Development, Aquaculture Alb-Adriatico2013 and University College of Business in Tirana. The duration of the project is for two years, 2020 – 2022.

Find more about the project here.

FishMedic

FishMedic aimed to investigate the occurrence of medicinal substances in the muscle tissue of commercial fish species, to assess their concentrations and raise awareness and inform the public about the proper management of medicines. The program was implemented by iSea in collaboration with GIVMED and the Biochemistry-Biotechnology



Department of the University of Thessaly within the framework of the "Support Points" program.

The project included:

- Sampling in the two largest urban centers in the country (Thermaikos and Argosaronic Gulf).
- Investigation of the existence of 10 pharmaceutical substances in the tissues *Dicentrarchus labrax* and *Solea solea*.
- Risk management assessment through relevant literature.
- Biomagnification within the food chain analysis.
- Dissemination of results, informing and raising awareness of the problem.
- Conscious consumption of medicines, their proper management and disposal in an environmentally friendly way promotion.
- Capacity building activities focusing on learning, professional support, and networking.

Both targeted species are considered important commercial species in Greece and are found in most fish markets while being consumed by people of an extended age range. Additional reasons for choosing these two species are highly likely to detect concentrations of drugs in these substances due to biomagination, the increase in the concentration of a substance when it passes from the lower trophic level to the upper.

In the context of the investigation for medicinal substances in the muscle tissue of the species seabass (*Dicentrarchus labrax)*, and the common sole *(Solea solea)*, a small concentration of caffeine, was detected in a small number of both species.

The detected concentration does not pose a risk for human health, but it may cause significant negative effects in the health of the studied species if the concentration increases.

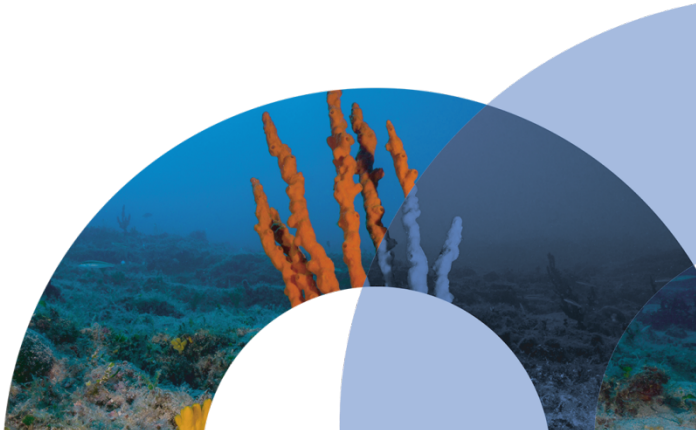
The presence of caffeine in aquatic organisms and in the aquatic ecosystem proves that it ends up through wastewater via the consumption of products like coffee, tea and soft drinks that contain caffeine. In addition, the substance is used in many analgesic drugs to enhance their effectiveness.

iSea, in collaboration with GIVMED also created informative material to disseminate the results of this research to the public, in combination with previous research, in order to promote drugs' donation and proper disposal. The materials included further research outputs supporting the fact that various medicinal substances that are increasingly found in a variety of water bodies, are transported to the aquatic environment through urban wastewater and possibly end up in the body of edible fish. In addition, they were proving the fact that medical substances are bioaccumulated, resulting in an increase of the species defense mechanisms.

Find more about the project here.

kookoonari

Become kookoonari is an experiential program to create zero waste schools targeting primary education.



"kookoonari" aims to encourage people, mainly school communities and work teams, in zero-waste ideas through experiential workshops and educational activities!

During the last year, kindergartens throughout Greece ``became kookoonari" with the participation of students, teachers, and parents. Multiple actions were organized, from games and zero-waste events for the children to participatory workshops with zero-waste ideas for the adults! A total number of approximately 50 students and 10 educators participated in the project. Educators were trained during regular meetings with the kookoonari team to discuss, design, implement and assess activities to reduce their waste in each participant's school and classroom and exchange ideas among each other for new or modified activities.

In addition, workshops for adults were held with the aim to inform the public about ways of upcycling items and about composting. Almost 30 adults, parents of the students that participated in the project, attended the workshops, and created their own upcycled cases and were informed about composting at home. All the activities were implemented under the official approval of the Ministry of Education and Religious affairs. In addition, upcycling ideas were disseminated, in collaboration with pigolampides through the project' s Social Media pages based on the material included in the kookoonari ideas: a zerowaste guide.

Find more about the project here.

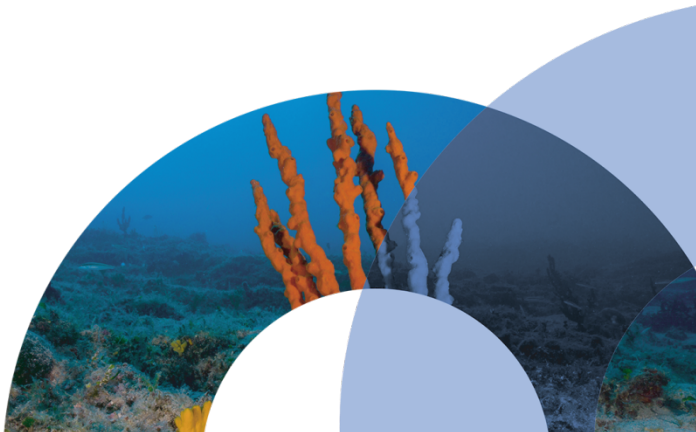
School visits on aquatic litter

iSea continued the implementation of its educational programmes regarding aquatic litter, approved by the Ministry of Education and Religious Affairs.

The aim of the school visits was to introduce students to the concept of marine plastic pollution and microplastics. Their possible sources were presented, as well as their impact to the marine environment, marine species and human communities and health. All the information provided to students were based on the work and the materials collected and/or created by iSea.

During 2021, meetings with schools were held both remotely and live. A total number of more than 300 students from Primary and Secondary education participated accompanied by more than 10 educators.

Find more about the project here.



AQUATIC LITTER REPORT

AQUATIC LITTER DEPARTMENT

Aquatic Litter is a major cross-border issue with environmental, social, and economic implications. The modern way of life that leads to uncontrolled consumption, as well as the long-term improper management of waste, has made aquatic litter one of the major environmental issues in the world. To deal with it, it is imperative to change the mentality and to make and implement correct political decisions immediately. iSea through its projects focuses on the investigation of the composition and distribution of waste along the coasts and seabeds of Greece, but also on interventions for the reduction and proper management of waste. An additional aim is to inform and raise awareness of target groups to trigger their active involvement in addressing the issue, as well as promote the adoption of good practices to reduce their waste.

2021 OVERVIEW

In 2021, iSea implemented more than 50 underwater clean ups and more than 25 beach clean ups throughout Greece, collecting in total more than 40 tons of marine litter. One of the highlights in 2021 was the collaboration with Nymfi beer and the actions implemented in Thermaikos Gulf and in the National Park of Axios. Additionally, a year's milestone was the production of the report of the current situation of quantities and types of litter in the Evros Delta area, one of the few reports ever done in Greece regarding aquatic litter in wetlands.

Together we clean Thermaikos

iSea and Nymfi beer joined their forces in the context of the project "Together we clean Thermaikos", with the aim on informing the public about the issue of aquatic litter in the greater region of Thessaloniki area and at the same time to remove marine litter from the Thermaikos gulf.

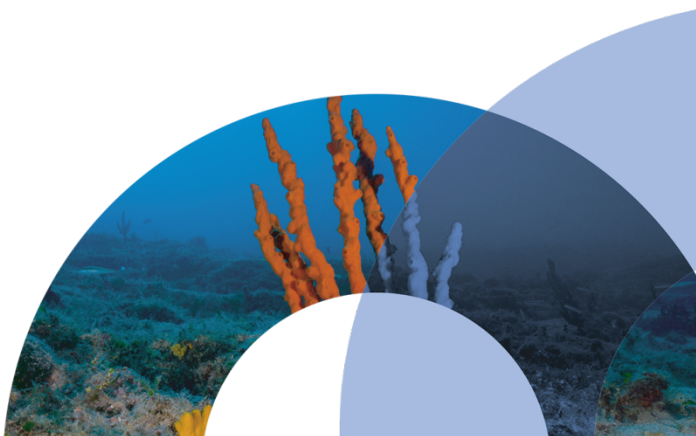
Implemented actions included:

- Teasing actions
- Underwater clean up
- Reuse actions
- Beach clean up
- Floating litter clean up
- Sea surface cleaning vessel

During the teasing actions statues resembling tails of mermaids were appearing in different places in the city of Thessaloniki, to attract the citizens for the upcoming actions. The statues were "accompanied" with a QR code that the citizens could scan and get informed about the upcoming actions and get some tips on how to reduce their own waste in their everyday life.

An underwater clean up took place in Kellarios Ormos and more than 1000 kg of marine lotter were removed with the participation and support of the Municipality of Thessaloniki, Port Authority of Thessaloniki, EPOMEA Thessaloniki and Paulou Mela.

Many of the marine litter collected through the clean-up actions implemented in Thermaikos gulf



were used for the creation of a statue with the form of a mermaid. The statue was created by Mrs Sofia Tsirigoti.

A beach clean-up took place in Kalochori and more than 4000 kg of litter was removed with the contribution of the Municipality of Delta, the Management Authority Thermaikos Gulf Protected Areas. The beach clean-up was carried out with participation of volunteers from the Environmental group of the University of Makedonia, the Action for Wildlife, the Association of Recreational Fishers of Central Makedonia – ''Arion SEAKM'', and Echedorou Fysis. Fishing gear and single use plastic were among the most abundant litter items collected.

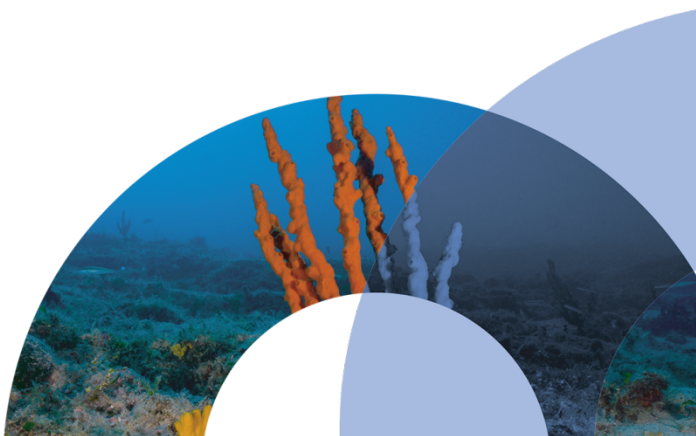
The floating litter clean-up was implemented with the help of a sailing boat that started from Aretsou marina, crossing the beachfront of Thessaloniki city and ending up in the frontside of the National Park. Volunteers of iSea removed 10 kg of floating litter from the surface of Thermaikos Gulf.

In the context of the project iSea collaborated with North Aegean Slops to collect floating litter with the help of the cleaning vessel "Alkippi". More than 2.600.000 liters of sea water were cleaned collecting litter such as plastic bottles, plastic pieces, mussel farming barrels and plastic bags.

Find more about the project here.

#zeroplastic

The #zeroplastic campaign started in 2019 with the aim to inform the public about the impact of plastic waste and microplastics on marine ecosystems and human health, and primarily to promote a zero-waste lifestyle through the reduce of plastic items and products containing microplastics. Between 2020 and 2021, the project focused on the tourism industry through the engagement of 16 diving centers across Greece. Several actions were conducted with the centers to raise awareness oftheir owners and visitors, motivate them to remove marine litter from their areas, reduce the use of single use plastics and products containing microplastics, and motivate them to collect citizen science data about seafloor litter in their areas. In 2022, the project will increase its impact using art as an awareness raising tool while implementing actions with diving centers in Cyprus in collaboration with the Institute of Marine Conservation and Education - Aquademia.



You can also find the participating diving centers here.

Actions:

- Establishment of collaboration with diving centers in Sporades islands, Cyclades islands, Crete, Ionian, Dodecanes islands and Attica which will actively participate in the project and implement actions to raise awareness among their visitors, underwater cleanups, collection of data about marine litter, and reduce the use of single use plastics and products containing microplastics in their business.
- Assessment of their disposable single use plastics with the aim to find proper solutions to minimize the single use plastics and the products containing microplastics that they use in the context of their activities.
- Monthly reporting of the diving centers including the disposed single use plastics and products containing microplastics used in their business, to assess their reduction after adopting zero plastic solutions.
- Investigation of zero waste and possible solutions concerning proper actions and appropriate replacements of products for the reduce of plastic pollution due to the activities of the diving centers.

Participating diving centers havecreated a "corner" where visitors were informed about the issue of plastic pollution and microplastics based on the informative materials that were created in the context of the #zeroplastic project. Underwater clean ups were implemented, aiming to both directly remove marine litter and to raise the awareness of the local community, as well as to enhance the data collection and reporting based on the Project Aware guidelines. Participants were informed about "Project Aware" and all the materials for the data collection according to "My Dive Against Debris Surveys" were presented and provided to them by iSea.

A total of 11 underwater clean ups were implemented from June to October, 2021 in the

context of this project. In these events, a total amount of 1370 kg of waste was collected and recorded.

Find more about the project here.

Fishing For Litter

The Fishing For Litter project by A.C.Laskaridis Foundation includes the participation of the fishing industry in the reduction of marine litter based on the OSPAR protocol Agreement 2017-081. The foundation collaborates with iSea, which has been rendered responsible for the implementation of the project in Greece.

Professional fishers participating in the project are required to collect the litter that accumulates in their nets as part of their routine fishing activity as well as to weigh and register their findings in a recording form that has been created by the project for this purpose. Fished litter is stored onboard in large bags provided by the project so that it can be transported to the shore and be disposed of.

The main objectives of the project are:

- To sensitize and change the waste management practices of the fishing industry
- The direct removal of marine litter from the seafloor
- To record litter that is found by medium-scale fishers as they perform their fishing activities.

In total, 40 fishing vessels participated and more than 25tons of marine litter was removed in 2021. In addition, the MSFD indicators describing the "good environmental status" for the seabed were calculated for the sea areas where the vessels are fishing. These data will be forwarded to the Ministry of Environment and Energy to be used in the national report of Greece to the European Union.

Find more about the project here.

Prosfero

In the context of the "Prosfero" campaign, 49 underwater cleanups and 13 beach cleanups were conducted from April to October 2021 all over Greece. More specifically, cleanups were conducted in marinas, ports and beaches of Northern Aegean islands, Chalkidiki, Cyclades, and Dodecanese islands. In total, about 283 volunteers, iSeas' diving team, and representatives of local diving associations and of dive centers contributed to the implementation of the underwater and beach clean ups. In addition, 17 Municipalities and 16 Port Authorities of these areas supported and participated in actions at their areas. The participants were also informed about the impact of marine litter and a zero-waste lifestyle was promoted among them.


More than 41 tons of marine litter was collected during the implementation of the campaign. The types of litter removed differed depending on the area and the most common human activities in each region. Plastic was the most abundant type of litter exceeding 70% of the total litter.

Find more about the project here.

Apochi

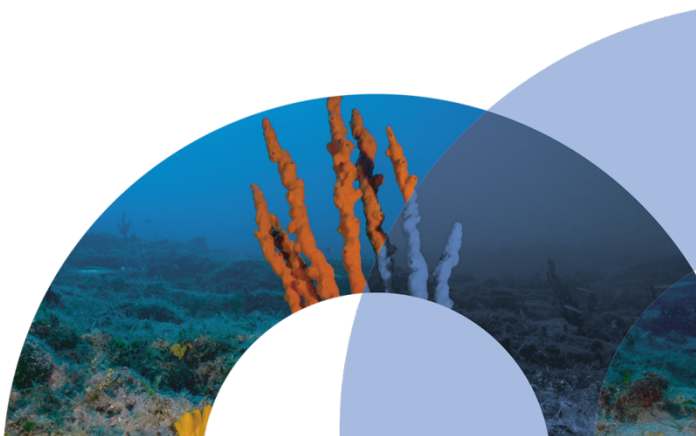
On the World Oceans' Day, in collaboration with efood, iSea implemented the project "Apochi". In the context of the Corporate Social Responsibility project "Love Delivered" that was implementing from 8 till 23 of June, the necessary amount of money was raised through donations of efood application and online platform users, in order to construct marine litter collection stations.

In the context of the project "Apochi", three floating marine litter collection stations were placed in central places in three big urban centers of Greece, Piraeus, Thessaloniki, Kavala. The established collection stations include two fishing nets, where the users can use to catch floating litter around the area of the station and discard the litter in the bins that the stations have. The aim of the project is to actively involve the citizens in collecting marine litter.

The action was implemented in collaboration with the Municipality of Kalamaria, Municipality of Keratsini - Drapetsona and the Port Organisation of Kavala. The collection stations were designed and created by Sofia Tsirigoti.

Find more about the project here.

BioLearn



"Eco-Conscious Minds to Stop Pollution in the Valuable Wetlands of Black Sea Basin- Biolearn project" stresses the main pollution problems threatening very important biodiversity sites of the Black Sea Basin, namely its wetlands. The project partnership is established among six partners – public institutions, environmental NGOs and national park management bodies from five different countries, responsible for the management, promotion and protection of the valuable nature of the Black Sea Basin.

Main goal of the project is to combine resources and knowledge for the establishment of common activities in order to increase local awareness and the reduction of pollution in the important wetlands of Black Sea Basin. The actions of the project include knowledge exchange and capacity building activities between project partners and interested institutions, public awareness raising activities and educational programs for local stakeholders and school students, cleanups in the targeted areas and the establishment of 10 activity centers for the promotion of the issues related to river borne and marine litter in Black Sea Basin.

In the context of the project, supported by the Management Authority of Evros Delta and Samothraki Protected Areas, iSea:

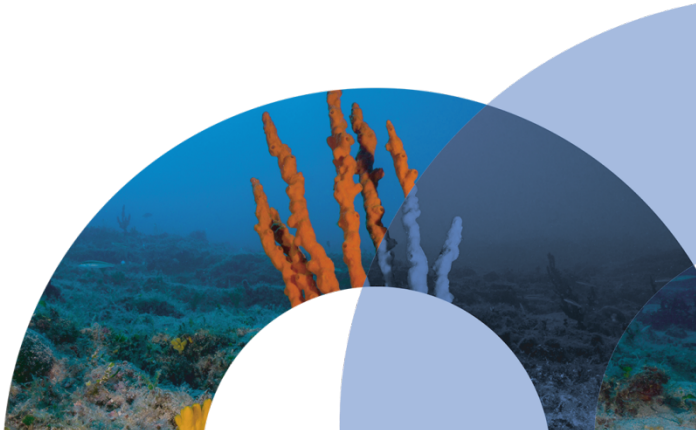
- prepared a report for the current situation of river based and marine litter in Evros Delta wetland after reviewing the existing literature, gathering the relevant data from other projects, implementing in situ observations and samplings and interviewing locals interacting within the wetland.
- organized the project's workshop in Greece, presenting the results of litter pollution in Evros Delta and hosting partners' and other experts' presentation with the aim to incorporate their expertise and organize a manual of training and best practices.
- prepared the manual of educational and training best practices including educational materials for raising awareness against litter pollution in the wetlands and best practices as examples already implemented and serve the needs for the prevention and mitigation of litter pollution in Black Sea Basin areas affected by litter pollution.

Find more about the project here.

Piloting Marine Litter Prevention and Mitigation Action

A marine litter demo was launched by iSea at the Thermaikos Gulf Protected Areas. The action plan was built step-by-step, engaging all stakeholders with the aim to reflect the MPA-specific context and characteristics, and define the priority measures towards effectively preventing and mitigating marine litter. Through the Plastic Busters MPAs project, the Thermaikos Gulf Protected Areas had the unique chance to operationalize one of the priority measures shortlisted in its action plan.

The project that was selected to be showcased in the Thermaikos Gulf Protected Area is entitled "Establishing a derelict fishing gear management scheme and promoting co-responsibility to tackle fisheries and aquaculture-related litter". Meetings among iSea members and involved stakeholders were conducted, mainly with the contribution of the Thermaikos Gulf Protected Areas Management Authority. Representatives of fishing and aquaculture associations and of the



municipalities were also contacted in person, whereas encounters with individual fishers and the mussel farmers were conducted during their activities.

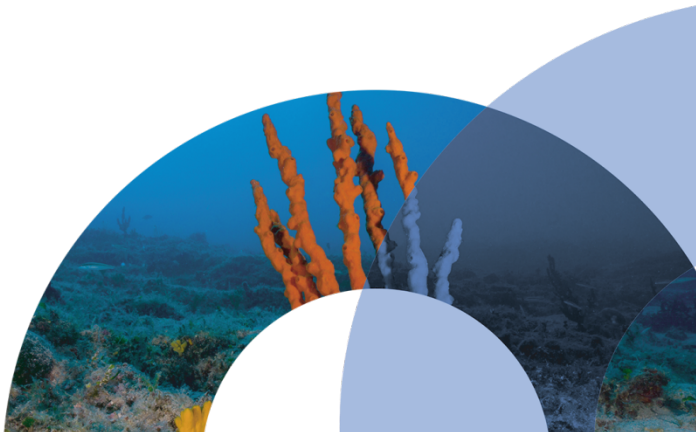
The project implemented the following actions:

- Monitored and assessed the presence of abandoned, lost and discarded derelict fishing gear (ALDFG);
- Promoted best practices among the fisheries and aquaculture sectors for the proper collection and management of ALDFG;
- Set up a derelict fishing gear management scheme and install collection bins in selected sites
- Organized stakeholder engagement and awareness-raising activities targeted also to the local communities

As a result, 67% of the total litter items were fishery- and mussel farming-related. The mussel nets and the plastic strings and cords, accounted for 60% of the total litter observed. A total amount of 7.500 tons of disposed mussel nets were removed from the Chalastra fishing port located in Delta, transferred to the BlueCycle facilities, and recycled.

The demo was implemented with the financial support of the Interreg Med Plastic Busters MPAs by iSea, in collaboration with MIO-ECSDE, and with the involvement of the Management Authority of Thermaikos Gulf Protected Areas, and BlueCycle.

Find more about the project here.

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