



Pick The Alien

iSea

Environmental Organisation for the
preservation of the aquatic ecosystems



Final report
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Alien species in Greece



About 15 invasive alien species of fisheries concern can be found in the Aegean Sea, affecting coastal fisheries practiced by nets, bottom long-lines and purse-seiners fishing. Several of these species are of high commercial value (e.g., *Siganus spp.*, *Upeneus spp.* etc.), which consist of important fishery resources in Mediterranean areas that are abundant. However, the majority of them are of minor commercial value in Greece. This is

happening due to a number of factors, but primarily due to the fact that the Greek consumers and retailers are not familiar with the new species.

The project

Pick the Alien, is one of the main projects of iSea that falls under the scope of Human and Aquatic Ecosystems pillar. Through the project, iSea aims to promote the responsible consumption of seafood with a special focus on promoting the consumption of edible alien species. The project's actions include raising awareness about the negative effects of the presence of alien species among all the stakeholders involved in the seafood market chain and the promotion of their consumption as a mitigation measure to the increase and expansion of alien species in Greece. In addition, it includes actions that will set the baseline of an alliance between small scale fishers, retailers, chefs/restaurants and consumers locally and nationally, that will understand, share and respect the same values and notions of sustainability and marine protection. The main objectives of the project are:

- (i) the replacement of high trophic level species with environmentally responsible seafood products, including edible alien species,
- (ii) the creation of supply chains and a pioneer alliance that benefits the local economies and promotes the responsible seafood consumption and





- (iii) the pilot testing of new selective fishery practices targeting alien species.

Relevant projects in the Mediterranean:

- [RELIONMED-LIFE](#) project (09/2017-02/2022). The specific project was focused on lionfish (*Pterois miles*) and not alien species in general. The project aimed to make Cyprus the 'first line of defense' against the invasion of lionfish in the Mediterranean. It was implemented by the University of Cyprus and collaborated with the Department of Fisheries and Marine Research, CY, the University of Plymouth, UK the Enalia Physis Environmental Research Centre, CY and the Marine & Environmental Research (MER) Lab Ltd, CY.
- [Fish The Alien](#) project (04/2022-11/2022). The project aims to challenge traditional narratives and motivate the public and fishers to target non-indigenous species instead of high trophic native species, support the development of supply chains that will benefit the local economies, promote the sustainable seafood consumption and sustainable fishery and build incentives to achieve frequent and large removals of alien species on a financially sustainable basis for fisheries. It is implemented by the [Marine & Environmental Research \(MER\) Lab](#) and funded by the [Cyprus Environment Foundation](#).

There is scientific collaboration between iSea and MER for both Pick The Alien and Fish The Alien projects.

Funders

Additionally, to their financial contribution, the Argolic Environment Foundation and the Blue Marine Foundation also contributed to the coordination and implementation of the project in the Argolic Gulf.



The AEF was established in 2021 to help the communities of the Argolic Gulf become leaders in the transition to sustainability, protecting and regenerating key marine and terrestrial ecosystems and improving the relationship between humans and nature.





UK based charity Blue Marine is dedicated in restoring the ocean health by tackling overfishing, one of the world's biggest environmental problems. This dynamic charity is working all over the world to protect huge areas of ocean and restore marine biodiversity.

Main Activities

The project is implemented at a national level with a manifold approach including numerous actions such as informative and gastronomy events, pilot use of lionfish traps and removals of alien species in Natura 2000 regions. In the Argolic gulf, informative and gastronomy events were implemented and framed by a communication campaign and the creation of informative material.

The areas of focus were:

- Nafplio
- Spetses island
- Hydra island

During the informative events, the invasive alien species found in each area, their impacts, possible measures to mitigate their expansion and abundance were presented to the participants, as well as the ecological value of apex predators, the threats they face and examples of responsible seafood consumption. In addition, the participants were informed about the results and the goals of the project, as well as the alliance the project aims to create among the stakeholders involved in the supply chain of seafood. After the presentation of all the information above, a roundtable among all the participants was following. During the roundtables, active involvement of the participants was noted mainly focused on discussions for the challenges of promoting the entrance of invasive alien species in the supply chain. On the other hand, creative ideas on ways to uplift the value of invasive alien species, familiarize the public with such species in order to increase their demand, but also ideas for addressing issues that arise during the efforts of promoting their consumption were thoroughly discussed during the informative events.

In addition, informative materials were distributed among the public according to their profession and needs, i.e. posters with the existing invasive alien species in each area for the fishers and recipes of invasive alien species for the chefs.

During the gastronomy events, the participants were informed about alien species, with emphasis on the species prepared for each occasion. iSea





representatives also noted the attendees' opinion and reactions on the tasting value of the recipes with alien species. An impressions book was available during the events, where participants could express their comments regarding the new tastes, but also their opinion on the initiative.

Additional material gathered in the context of the project, such as new recipes on the species prepared for the occasion, were also collected during each event and shared among the attendees with the aim to enrich the existing materials that are distributed in order to support the aims of the project.

In addition, in order to further study, the interactions between non-indigenous species and the fishing sector, iSea gathered data through a structured interview with the use of questionnaires addressing all fishers in the areas of interest.

Lastly, a thorough mapping of the target groups in each area was done in order to be invited to educational seminars and upon successful completion to be included in a national Responsible Seafood Alliance Scheme. The Alliance is an initiative of iSea that will be tested for the first time in Greece. It will result in a label provided to businesses contributing to the exploitation and promotion of edible alien species as well as the replacement and avoidance of apex predators. The professionals that will be included in the Alliance will be included in the [interactive map](#) at iSeas' webpage, where consumers are able to find businesses and fishers/fishmonger where they can taste or buy alien species.

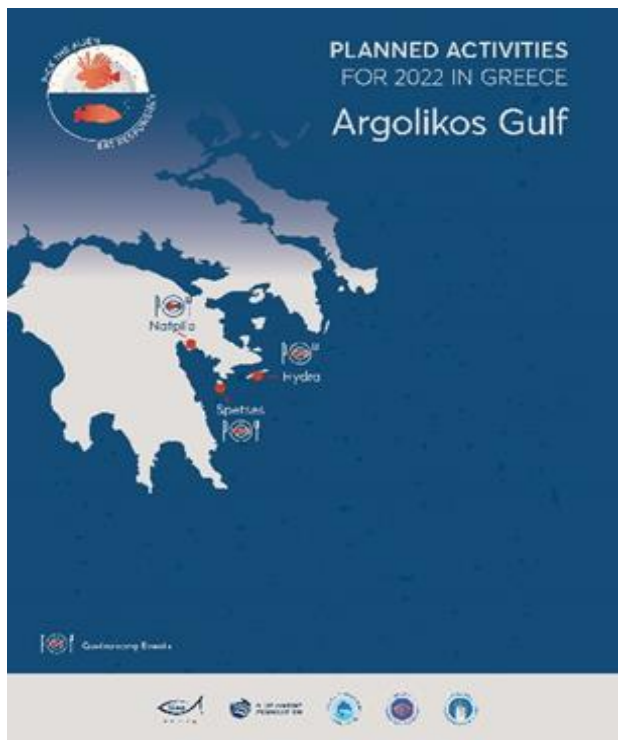


Picture 1: Lionfish and spinefoots caught in the Argolic Gulf



Implemented actions in the Argolic Gulf

The project started implementing actions in the Argolic Gulf in June 2022 and completed them in November 2022. Below you can see the results of the project regarding the actions in Nafplio, Hydra and Spetses islands along with the results of the communication plan until November 2022. Additionally, you will find a section about the next steps, conclusions, constraints and the financial report of the project.



June - November 2022

3 informative events (Hydra, Spetses, Nafplio)

3 gastronomy events (Hydra, Spetses, Nafplio)

5 participant chefs in all 3 areas



This year, it was the first time that the project implemented actions in the Argolic Gulf with the support of the Argolic Environment Foundation.

At Hydra, the informative event was held at the Chambers of Hydras City Council on the 22nd of June. Representatives from

the fishing community, including the president of the fishers' association, the port authority, the municipality, and the fisheries department were present. After the presentation of all the relevant information, a thorough discussion with them followed regarding the main constraints in adding edible alien species in the local market and the application of possible mitigation measures.

The gastronomy event took place at the port front of Hydra, known as "Kefaloskalo", on the 22nd of June. More than 100 people attended the event and tasted the recipes, which were created voluntarily, by 3 local restaurants, namely [Oraia Hydra](#), [Taverna Gitonikon Hydra](#) and [Annita Hydra](#), with the use of edible alien species, which were fished locally.



At Spetses, the informative event was conducted at Kapodistriaki Stegi of Spetses on the 25th of June. Representatives from the targeted stakeholder groups attended the event including the fishing industry, the municipality and the fisheries department.



The gastronomy event took place at Poseidon Square, in front of the Poseidon Grand Hotel, which is a landmark of Spetses, on the same day. More than 100 people got informed about the project and tasted the recipes prepared voluntarily by the chef from [Orloff restaurant](#).



At Nafplio, the team of iSea was invited to participate in the 1st gastronomic and cultural event "Peloponnese Food Stories | Stories of Flavours, People, Culture" in Tolo on the 16th of September, organized by the Region of Peloponnese, the Municipality of Nafplio, the Chamber of Argolida, the Professional Association of Tolo and the Peloponnese Tourist Organization. Locals and tourists were informed about the presence of alien species, their impacts on the marine

ecosystems, possible mitigation measures, environmentally responsible seafood consumption choices and relevant informative material was distributed to them.



Picture 2: Captions of the events held at Nafplio

The informative event was conducted at the Old Parliament in Nafplio on the 18th of September and was attended by fishmongers and consumers, succeeded by the gastronomy event at Syntagma Square, the main square of Nafplio. The attendees had the chance to be informed about alien species and responsible seafood consumption choices and tasted recipes with lionfish and Atlantic blue crabs as main ingredients, prepared voluntarily by the [WILD DUCK- eat and drink Restaurant](#). More than 120 people attended the event and tried the taste value of the invaders.

According to the local stakeholders in all areas, some edible alien species are consumed by the fishers, but the majority of them are discarded back to the sea, as they have no commercial value. Surprisingly, some of the locals had never tried invasive alien species before and were astonished by their taste once they did. Restaurateurs on the other hand, were familiar with some of the species, especially spinefoots and Atlantic blue crabs, but were sceptical to add them to their menus due to low consumption by their clients and increased working hours for the preparation of the dishes. Upon our events however and after communication with local fishers we are informed that lionfish and spinefoots are gradually being included in the local food chain at Spetses as a restaurant, namely [To Nero tis Agapis](#), and a fishmonger have added them to their available products, always depending on the fishers catch due to weather, location, seasonality etc.

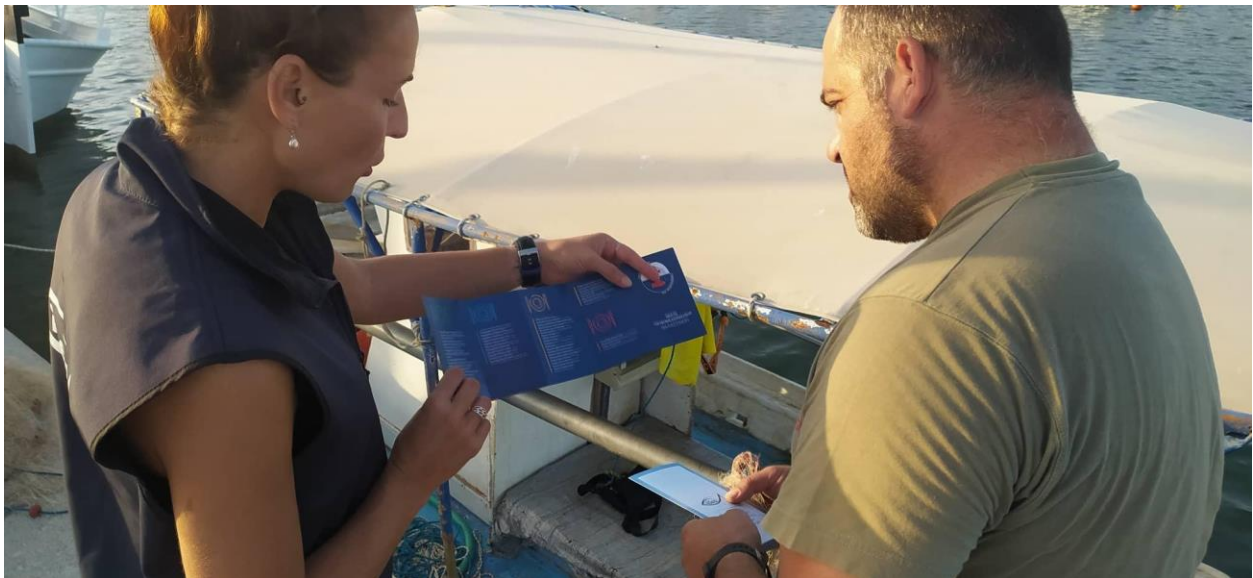


Alliance

To set the context of the Alliance among the stakeholders of the seafood market chain the stakeholder targeted groups were mapped and the criteria for the alliance's members were decided. The targeted stakeholder groups follow:

- Small-scale fishers
- Recreational fishers
- Fishmongers
- Fishing stores
- Seafood processing companies
- Restaurants
- Hotels
- Chefs

Since iSea is not an audit authority responsible to control whether the alliance members act towards the protection of the marine environment, as criteria for entering and remaining a member of the alliance was set the attendance at educational seminars. The seminars will include manifold topics towards the protection of the marine environment starting with the promotion of targeting invasive alien species and the exclusion of targeting apex predators. They will also include: catch and release practices, fishing gear selection, activities' impact on Marine Protected Areas, anchorage impact on habitats, minimum permitted



Picture 3: Presenting and providing to a fisher all the informative materials created in the context of the project



catch sizes of fish, proposed seasons for different species consumption, protected species, the legal framework on different relevant issues.

During the actions implemented in the Argolic Gulf, all attendees that belong to the targeted stakeholder groups were informed about Pick the Alien Alliance and its goals. In addition, all local people and businesses belonging to the aforementioned groups were mapped in order to get invited to the seminars and have the chance to join the alliance. On the occasion of the events in the Argolic Gulf, iSea met and contacted local representatives, like the ones from the fishing community, enriching its network of collaborators and potential members of the alliance.

Communication

Argolic Environment Foundation was referred to in all posts published by iSea in the context of Pick the Alien Project. In addition, the foundations' logo is included in all the materials created in the context of the project.

1st step: In total 29 posts¹ were published in all the social media of iSea (Facebook, Instagram, Twitter, LinkedIn, TikTok) (Table 2, Table 3, Table 4, Table 5), 9 Press Releases were sent to local and national news agencies, and they were reproduced from news blogs and sites (Table 6, Table 7), and 10 interviews were given to local radio and television stations. Additionally, many chefs and fishers have tagged iSea, as they are preparing dishes or fishing alien species (Picture 2).

Also, 36 new recipes were collected, in order to enrich the existing free access recipes [eBook](#). Finally, during the events, all the attendees could write down their impressions in the relevant book that was available to them for evaluating the events and the value taste of the recipes (Picture 3). Some of the quotes written are the following:

"I am a professional fisher and tried lionfish and spinefoot for the first time and I am very impressed. I will keep eating them for starters and then promote them"
Unkown fisher, Spetses, Greece

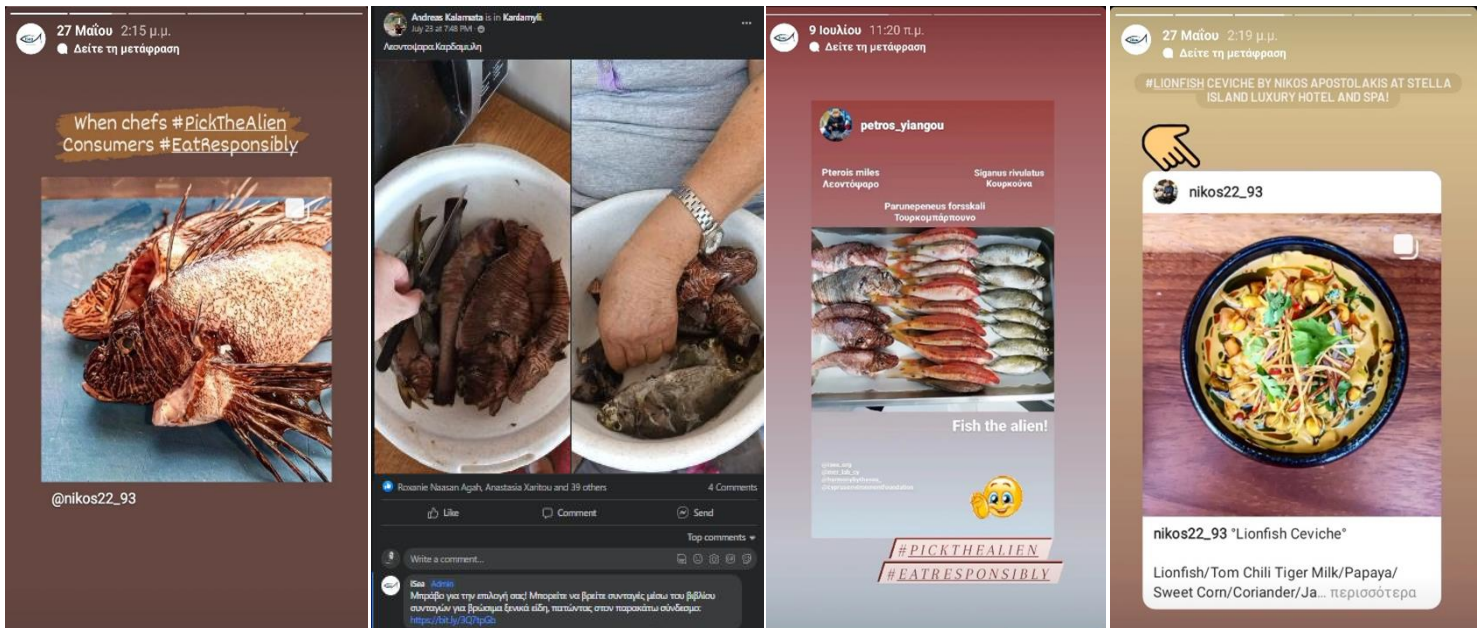
"Really good initiative! I'll tell everybody to ask for lionfish and blue crab. Stay fishy." Colette, Townsville, Australia

¹ Posts and articles/interviews that refer only to the Argolic Gulf or are national are highlighted in bold

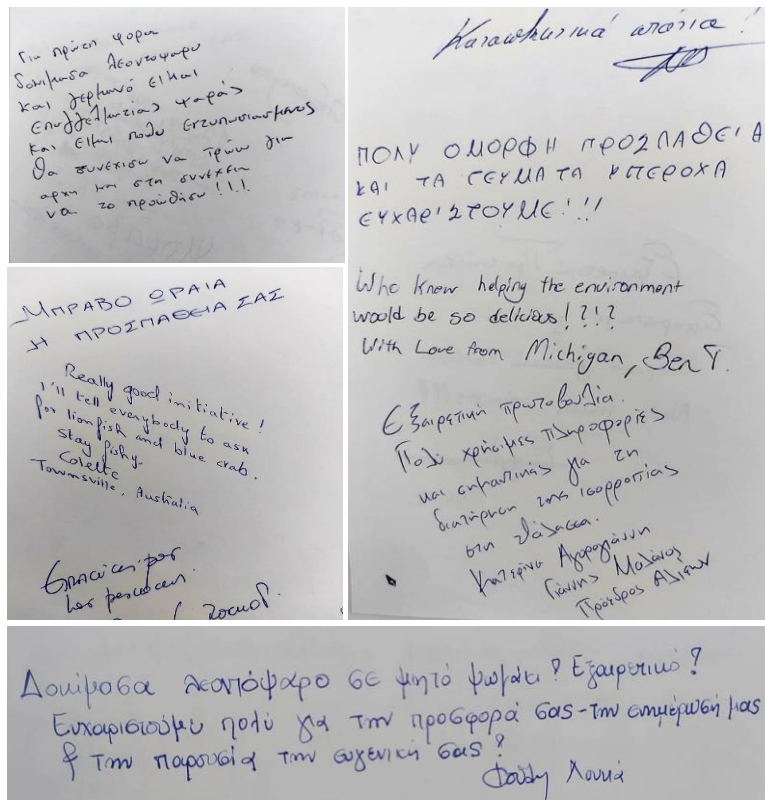


"Great initiative. Very useful and important information for maintaining the balance in the sea" Katerina Argurogianni, Giannis Malanos, President of Professional Fishers Association, Hydra, Greece

"I tried lionfish on toasted bread! Excellent! Thank you very much for your offer, for informing us and for your kind presence!" Fouli Louka, Nafplio, Greece



Picture 4: Some of the tags of iSea from chefs and people that fished and/or prepared dishes with alien species



Picture 5: The attendees of the gastronomy events were writing down their impressions on the project and alien species taste value in a dedicated book

Table 1: Posts n Facebook. Marked with Bold are the posts referring to the events in the Argolic Gulf

Post code	Date	Reach
Post 1	05/4/2022	11,769
Post 2	08/4/2022	16,155
Post 3	13/4/2022	6,399
Post 4	15/4/2022	6,957
Post 5	19/4/2022	8,823
Post 6	28/4/2022	2,376
Post 7	05/5/2022	3,067
Post 8	10/5/2022	9,225
Post 9	17/5/2022	5,285
Post 10	20/5/2022	16,283
Post 11	03/6/2022	12,320



Post 12	17/6/2022	3,145
Post 13	20/6/2022	3,206
Post 14	23/6/2022	3,264
Post 15	8/7/2022	39,839
Post 16	18/7/2022	4,694
Post 17	16/9/2022	5,258
Post 18	21/9/2022	2,559
Post 19	17/10/2022	10,363
Post 20	21/10/2022	2,900
Post 21	26/10/2022	4,082

Table 2: Posts on Instagram. Marked with Bold are the posts referring to the events in the Argolic Gulf

Post code	Date	Reach
Post 1	5/4/2022	498
Post 2	8/4/2022	555
Post 3	13/4/2022	654
Post 4	15/4/2022	630
Post 5	18/4/2022	681
Post 6	28/4/2022	628
Post 7	4/5/2022	571
Post 8	10/5/2022	975
Post 9	17/5/2022	488
Post 10	20/5/2022	486
Post 11	3/6/2022	717
Post 12	17/6/2022	497
Post 13	20/6/2022	616
Post 14	23/6/2022	601
Post 15	8/7/2022	518
Post 16	18/7/2022	229
Post 17	16/9/2022	704
Post 18	21/9/2022	337
Post 19	17/10/2022	504
Post 20	20/10/2022	1091
Post 21	21/10/2022	554
Post 22	27/10/2022	588



Table 3: Posts on Twitter. Marked with Bold are the posts referring to the events in the Argolic Gulf

Post code	Date	Impressions
Post 1	5/4/2022	794
Post 2	8/4/2022	784
Post 3	12/4/2022	611
Post 4	13/4/2022	418
Post 5	13/4/2022	156
Post 6	14/4/2022	111
Post 7	15/4/2022	225
Post 8	16/4/2022	185
Post 9	16/4/2022	186
Post 10	16/4/2022	160
Post 11	17/4/2022	249
Post 12	17/4/2022	175
Post 13	17/4/2022	204
Post 14	17/4/2022	1.27
Post 15	18/4/2022	184
Post 16	19/4/2022	830
Post 17	19/4/2022	570
Post 18	28/4/2022	257
Post 19	30/4/2022	447
Post 20	4/5/2022	209
Post 21	5/5/2022	129
Post 22	5/5/2022	695
Post 23	9/5/2022	427
Post 24	10/5/2022	163
Post 25	10/5/2022	314
Post 26	13/5/2022	125
Post 27	13/5/2022	130
Post 28	13/5/2022	87
Post 29	15/5/2022	366
Post 30	15/5/2022	402
Post 31	17/5/2022	195
Post 32	17/5/2022	114



Post 33	20/5/2022	229
Post 34	3/6/2022	191
Post 35	20/6/2022	243
Post 36	23/6/2022	536
Post 37	8/7/2022	305
Post 38	18/7/2022	237
Post 39	16/9/2022	219
Post 40	21/9/2022	169
Post 41	21/10/2022	1362
Post 42	27/10/2022	914

Table 4: Posts done in LinkedIn. Marked with Bold are the posts referring to the events in Argolic Gulf

Post code	Date	Impressions
Post 1	5/4/2022	172
Post 2	8/4/2022	230
Post 3	13/4/2022	130
Post 4	15/4/2022	289
Post 5	19/4/2022	482
Post 6	28/4/2022	187
Post 7	10/5/2022	296
Post 8	17/5/2022	785
Post 9	3/6/2022	385
Post 10	18/7/2022	372
Post 11	21/10/2022	464

Table 5: Articles in the press regarding the project. Marked with Bold are the articles referring to the events in the Argolic Gulf

News Office	Region	Link	Date
Vories Sporades	Sporades	Link	5/4/2022
Paros News	Cyclades	Link	5/4/2022
Koini Gnomi	Cyclades	Link	6/4/2022
Nea tis Santorinis	Cyclades	Link	11/4/2022
Municipality of Amorgos	Cyclades	Link	13/4/2022
Naxos Press	Cyclades	Link	14/4/2022
Naxos Times	Cyclades	Link	14/4/2022
Cyclades Voice	Cyclades	Link	14/4/2022
Cyclades24News	Cyclades	Link	14/4/2022



Green Agenda	National	Link	18/4/2022
Voria.gr	National	Link	18/4/2022
Kanali 1	Athens	Link	27/4/2022
Proto Thema	Athens	Link	28/4/2022
104FM	Crete	Link	10/5/2022
Municipality of Agios Nikolaos	Crete	Link	10/5/2022
Fonien.gr	Crete	Link	11/5/2022
Anatoli online	Crete	Link	11/5/2022
Lato News	Crete	Link	12/5/2022
Anatoli online	Crete	Link	15/5/2022
Efimerida Anatoli	Crete	Link	15/5/2022
Enimerosi	Ionian Sea	Link	17/5/2022
Corfu Press	Ionian Sea	Link	18/5/2022
CorfuLand	Ionian Sea	Link	18/5/2022
Kefalonia Life	Ionian Sea	Link	18/5/2022
ImeraZante	Ionian Sea	Link	18/5/2022
eKefalonia	Ionian Sea	Link	18/5/2022
KerkyraSimera	Ionian Sea	Link	19/5/2022
ZanteTimes	Ionian Sea	Link	23/5/2022
Department of Food Science and Technology	Ionian Sea	Link	25/5/2022
eKefalonia	Ionian Sea	Link	27/5/2022
Argolikes Eidiseis	Argolic Gulf	Link	20/6/2022
H Foni tis Hydras	Argolic Gulf	Link	20/6/2022
Hydra Municipality	Argolic Gulf	Link	20/6/2022
Arena News	Argolic Gulf	Link	20/6/2022
SaronicMagazine	Argolic Gulf	Link	20/6/2022
Hydra Island	Argolic Gulf	Link	20/6/2022
GRTimes	Argolic Gulf	Link	21/6/2022
Taxidromos.gr	Argolic Gulf	Link	21/6/2022
Kathimerini	National	Link	12/7/2022
Argolikes Eidiseis	Argolic Gulf	Link	13/9/2022
Anagnostis	Argolic Gulf	Link	13/9/2022
Nafplio24.gr	Argolic Gulf	Link	14/9/2022
Argolidatv.gr	Argolic Gulf	Link	14/9/2022
Argolida Magazine	Argolic Gulf	Link	15/9/2022
Municipal Organization for Culture-Environment-Sports-DOPPAT	Argolic Gulf	Link	15/9/2022
Anagnostis	Argolic Gulf	Link	18/9/2022
Argolikes Eidiseis	Argolic Gulf	Link	21/9/2022
Nafplio24.gr	Argolic Gulf	Link	22/9/2022
Anagnostis	Argolic Gulf	Link	22/9/2022



Dimokratiki	Dodecanese	Link	17/10/2022
To Vima tis Ko	Dodecanese	Link	17/10/2022
Proodos	Dodecanese	Link	17/10/2022
Proti Ekdosi	Dodecanese	Link	17/10/2022
Sky Rodos	Dodecanese	Link	17/10/2022
Real Voice News	Dodecanese	Link	18/10/2022
Kosnews2	Dodecanese	Link	20/10/2022
Kos Tv	Dodecanese	Link	20/10/2022
Ekfrasi97	Dodecanese	Link	21/10/2022
Rhodes	Dodecanese	Link	22/10/2022
Nea Santorinis	Cyclades	Link	15/10/2022
Cyclades Voice	Cyclades	Link	17/10/2022
Atlantea	Cyclades	Link	17/10/2022
Santonews	Cyclades	Link	20/10/2022
Koini Gnomi	Cyclades	Link	21/10/2022
Serifos	Cyclades	Link	21/10/2022

2nd step: Regarding the second step of the communication plan and the representatives of different key stakeholders to act as ambassadors of the project, the people selected follow: Kostas Aggelopoulos and Alexandros Untila will be the representatives from the side of the chefs community, Dr. Stelios Katsanevakis from the side of the scientific community, Georgios Tyrikos Ergas from the side of the recreational fishers community, Apostolos Elissaïos from the side of small-scale fishers community, Apostolis Chartabilas from the side of the fishmongers community, Nikolaos Mittas (president of New Consumers Institute of Greece) from the side of the consumers community and Anthi Arvaniti from the side of the fishing tourism sector. The campaign has already launched, however, there is increased interest from old and new partners in becoming ambassadors of the project, as they are interested in further supporting its cause, so there may be more to come and represent different sectors or ways of tackling the issue of alien species.

3rd step: A responsible seafood consumption guide in both Greek and English was created and distributed among targeted stakeholders (Picture 4). Additionally, in this step of the campaign we aim to familiarize the public with the alien species in three different concepts: the sea, the market, and the restaurant. For this purpose, the campaign will contrast edible alien species with some very well-known native species which consumption is not considered as responsible in order



to promote the replacement of native species with the alien ones. You can find the matches of the species in the following table (Table 7).

Table 7: Alien species matches with native species for the 3rd step of the campaign

Alien Species	Marine Environment	Fish Market Environment	Restaurant environment
Lionfish (<i>Pterois miles</i>)	Groupers (<i>Epinephelus</i> sp)	Scorpionfish (<i>Scorpaena</i> sp)	Groupers (<i>Epinephelus</i> sp)
Blue crab (<i>Callinectes sapidus</i> & <i>Portunus segnis</i>)	Native crabs	Octopus (<i>Octopus vulgaris</i>)	Lobster (<i>Palinurus elephas</i>)
Red sea goaffish (<i>Parupeneus forsskali</i>)	Surmullet (<i>Mullus surmuletus</i>)	Red mullet (<i>Mullus barbatus</i>)	Surmullet (<i>Mullus surmuletus</i>)
Trumpetfish (<i>Fistularia commersonii</i>)	Seabass (<i>Dicentrarchus labrax</i>)	Needlefish (<i>Belone</i> sp.)	European eel (<i>Anguilla anguilla</i>)
Spinefoots (<i>Siganus</i> sp.)	Salema porgy (<i>Sarpa salpa</i>)	Annular seabream (<i>Diplodus annularis</i>)	White seabream (<i>Diplodus sargus</i>)

Atlantic mackerel (*Scomber scombrus*) > 14 cm.
Bluespotted cornetfish (*Fistularia commersonii*)
Atlantic blue crab (*Callinectes sapidus*)
Bogue (*Boops boops*) > 10 cm.
Caramote prawn
From small scale fishers (*Penaeus vannamei*)
Dusky/marbled spinefoot (*Siganus lineatus*)
European anchovy (*Engraulis encrasicolus*) > 9 cm.
European pilchard (*Sardina pilchardus*) > 11 cm.
Galani round herring (*Eurymystus galani*)
Lionfish (*Pterois miles*)
Long-spined sea urchin (*Diadema setosum*)
Mediterranean mussel (*Mytilus galloprovincialis*)
Rainbow trout (*Oncorhynchus mykiss*)
Redcoat (*Siganus lineatus*)
Red Sea goaffish (*Parupeneus forsskali*)
Round sardinella (*Sardinella aurata*) > 10 cm.

Sand steenbras (*Lithognathus mionectes*) > 20 cm.
Striped venus clam (*Modiolus barbatus*)
Pumpkinseed (*Lepomis gibbosus*)

Mediterranean sand smelt (*Atherina hepsetus*)
Common spiny lobster (*Palinurus elephas*)
European lobster (*Homarus gammarus*)
Sea urchin (*Asterias laevis*, *Paracentrotus lividus*)
Skates (*Raja* spp., *Dasyatis* spp., *Atomomyxus* spp., *Myliobatis* spp., *Gymnura* spp.)
Smooth-hound (*Mustelus* spp.)
Bivalve (mussels)
Atlantic bluefin tuna (*Thunnus thynnus*)
Crabs
Red mullet (*Mullus barbatus*)
European seabass (*Dicentrarchus labrax*)
Greater amberjack (*Seriola lalandi*)
European hake (*Merluccius merluccius*)
Surmullet (*Mullus surmuletus*)
Swordfish (*Xiphus gladius*)
Dusky grouper (*Epigonus marginatus*)
Brown meagre (*Siganus umbra*)
Atlantic salmon (*Salmo salar*)

Limpets (*Patella* spp.)
Date mussels (*Lithophaga lithophaga*)
Mediterranean fan mussel (*Perna perna*)
Juvenile fish and cephalopods.

RESPONSIBLE SEAFOOD CONSUMPTION GUIDE

PICK THE ALIEN EAT RESPONSIBLY

With the aim to promote responsible consumption of seafood and fish products, this is a list you may consult when choosing what to eat!

RECOMMENDED

GOOD ALTERNATIVES consist of species whose consumption may be a responsible choice under conditions, such as the size and season of consumption, and taking into consideration the fishing techniques and methods they were caught. Next to each species you can find the minimum conservation reference size based on the applied legislation.

AVOID species whose stocks are declined or endangered species and apex predators. The category also includes species which are more probably to be caught with fishing techniques and methods that pose high threats to the marine environment. There are also species which are usually mislabeled and may correspond to protected species, or impact human health mainly due to their high concentration in heavy metals.

PROHIBITED species based on the international, European and national legislation, according to which catching and selling them is illegal.

For more information visit www.isea.com.gr

Picture 6: The responsible seafood consumption guide created in English and Greek



Next steps

There is ongoing communication and discussions with the relevant stakeholders and the seminars required for the establishment of the alliance will be conducted in November and December as the interested stakeholders and groups are then available mainly due to the ending of the summer season, the reduction of tourism activities and the weather conditions that restrain fishers from their activities.

The closing event in Athens is currently under organization. The event aims to present “our story achieved” through the project. To accomplish this, we plan to invite representatives from the project’s target groups, in order to share their experience of the project and live stream it in order to inform and trigger the maximum possible number of attendees. In addition, people will also have the chance to taste new recipes of lionfish, in collaboration with a restaurant in Athens and a menu prepared for this purpose.

Finally, a technical report will be produced, identifying all the types of key stakeholders in national, regional and local scale and providing insights on how edible invasive species can successfully enter the Greek market.

Constrains

The main constrains faced during the project were the following:

- The organization of the gastronomy events was more challenging than expected. The fact that the touristic activity in 2022 was the highest in the recent years and combined with the fact that the tourist sector in Greece suffered from reduced personnel, resulted in low availability from chefs and restaurants. To face the issue:
 - the project team communicated with the majority of restaurants, taverns, catering businesses and hotels of the areas of interest,
 - some of the actions, were rescheduled later in the season, when the tourism activities were reduced.

However, the positive outcome from this constrain is that a mapping of restaurants/chefs willing to get more informed or participate in another action later in the season was achieved and can be an advantage while establishing the alliance.



- The difficulty in providing edible alien species to the chefs. Finding the species locally was hard, due to the weather conditions and the low water temperatures of this year and thus, the targeted alien species, such as spinefoots and lionfish were not found in shallow and/or coastal waters. However, with constant communication with local fishers and their associations and the capability of storing quantities of fish, we managed to overcome this issue.
- Despite the systematic efforts and the personal contacts to attract the catering businesses in all our areas of interest, very few or no representatives from them attended the seminars. To cope with this issue, the project team contacted and informed the relevant stakeholders well in advance and visited the restaurants upon arrival to ensure that all were aware about the project and its actions, briefly inform them about alien species and provide them with informative material.
- As with the HoReCa sector (HOTels, REstaurants, CAfes), the same difficulty was faced with the fishing sector. A low number of fishers attended the informative events in some of the areas. To overcome the issue, visits to fishing ports were accomplished, relevant material (eg. posters with common invasive species of the area, leaflets) was distributed and fishers were informed about the project, its' goals and the alliance.

Conclusions

During the events and our discussions with the attendees, many common misconceptions among the professionals were revealed. For example, the strong belief that the toxic *Lagocephalus spp* can be consumed as fugu dish is still promoted among different professionals, but also the Mass Media and the Press.

On the other hand, the local community showed a great interest on alien species, looking for possible opportunities to find them in their local markets. In addition, in some cases the local community was aware about the existence of invasive alien species, but only positive to taste them after being informed about them.

Furthermore, in some cases, there are restaurants looking for edible alien species, but due to the lack of communication between the different sectors, they are not aware that local fishers catch them. As a result, local fishers, avoid, discard or self-consume them considering them a bad catch.



Lastly, it was only after the events when different professionals were informed and realized that some species that they target or serve, such as groupers and snappers, are of high ecological value and/or threatened and should be protected.

Most of the professionals were skeptical towards spinefoots, which they avoid due to the time consuming procedure to either remove them from their nets or clean them. In some cases, fishers have even modified the nets "eyes" by making them larger, or changed their usual fishing locations or time in order to avoid catching them. An interesting idea that came up during the discussions of the informative events was to connect the fishers with a profitable market opportunity for exporting them and for chefs to bring them in touch with professionals that already regularly use them in order to exchange practices and knowledge.

Since the beginning of the project we were contacted, either directly or via social platforms, from people such as consumers, chefs and restaurant owners that have exhibited a great interest for the implementation of relevant actions in their regions in order to get informed about invasive alien species and responsible consumption of seafood but also try the taste value of the invaders (as was the case for the event "Peloponnese Food Stories | Stories of Flavours, People, Culture" in Tolo or the invitation to participate in the 30th Sailing Week organized by the Yacht Club of Greece (Picture 6)).



Picture 7: Spinefoot fillets



Picture 8: People gathered to taste edible alien species in Athens gastronomy event

Financial report

Regarding the financial data of the project, the following table shows the costs incurred in the implementation of the actions. Budgetary expenses included sustenance and project management. For all expenses, as described in the table below, all relevant receipts and invoices are available on request.

Type of Cost	Date	Expenses	Type in Budget
Sustenance	16/06/2022	30.00	Travel
Sustenance	17/06/2022	34.40	Travel
Sustenance	17/06/2022	34.40	Travel
Sustenance	19/06/2022	136.50	Accommodation
Sustenance	20/06/2022	37.00	Travel
Sustenance	20/06/2022	37.00	Travel
Sustenance	20/06/2022	7.00	Subsistence
Sustenance	20/06/2022	39.50	Subsistence
Sustenance	20/06/2022	8.33	Subsistence
Sustenance	21/06/2022	36.50	Subsistence
Sustenance	22/06/2022	4.00	Subsistence
Sustenance	22/06/2022	9.50	Subsistence
Sustenance	23/06/2022	271.50	Accommodation



Sustenance	23/06/2022	3.80	Subsistence
Sustenance	23/06/2022	7.30	Subsistence
Sustenance	23/06/2022	3.80	Subsistence
Sustenance	23/06/2022	4.30	Subsistence
Sustenance	23/06/2022	4.00	Subsistence
Sustenance	23/06/2022	36.50	Subsistence
Sustenance	24/06/2022	50.00	Travel
Sustenance	24/06/2022	50.00	Travel
Sustenance	24/06/2022	8.80	Subsistence
Sustenance	25/06/2022	8.80	Subsistence
Sustenance	25/06/2022	113.00	Subsistence
Sustenance	25/06/2022	14.60	Subsistence
Sustenance	26/06/2022	34.40	Travel
Sustenance	26/06/2022	34.40	Travel
Sustenance	26/06/2022	19.71	Travel (taxi)
Sustenance	26/06/2022	10.34	Travel (taxi)
Sustenance	26/06/2022	2.50	Subsistence
Sustenance	26/06/2022	4.10	Subsistence
Sustenance	26/06/2022	3.60	Subsistence
Sustenance	26/06/2022	7.20	Subsistence
Sustenance	26/06/2022	390.00	Accommodation
Sustenance	26/06/2022	1.50	Accommodation
Sustenance	09/09/2022	183.30	Accommodation
Sustenance	16/09/2022	5.70	Subsistence
Sustenance	16/09/2022	7.00	Subsistence
Sustenance	16/09/2022	93.04	Travel (gas)
Sustenance	16/09/2022	4.20	Subsistence
Sustenance	16/09/2022	2.20	Travel (tolls)
Sustenance	16/09/2022	2.50	Travel (tolls)
Sustenance	16/09/2022	4.00	Travel (tolls)
Sustenance	16/09/2022	3.50	Travel (tolls)
Sustenance	16/09/2022	2.80	Travel (tolls)
Sustenance	16/09/2022	2.55	Travel (tolls)
Sustenance	16/09/2022	1.90	Travel (tolls)
Sustenance	16/09/2022	3.85	Travel (tolls)
Sustenance	16/09/2022	3.90	Travel (tolls)
Sustenance	16/09/2022	1.80	Travel (tolls)
Sustenance	16/09/2022	3.20	Travel (tolls)
Sustenance	16/09/2022	3.30	Travel (tolls)
Sustenance	16/09/2022	0.50	Travel (tolls)
Sustenance	16/09/2022	1.20	Travel (tolls)
Sustenance	16/09/2022	1.80	Travel (tolls)



Sustenance	16/09/2022	2.10	Travel (tolls)
Informative Material	16/09/2022	86.80	Prints
Sustenance	17/09/2022	0.50	Subsistence
Sustenance	17/09/2022	3.60	Subsistence
Sustenance	17/09/2022	5.50	Subsistence
Sustenance	17/09/2022	42.50	Subsistence
Sustenance	17/09/2022	4.50	Subsistence
Sustenance	17/09/2022	3.30	Subsistence
Sustenance	17/09/2022	3.50	Subsistence
Sustenance	18/09/2022	4.90	Subsistence
Sustenance	18/09/2022	8.70	Subsistence
Sustenance	18/09/2022	40.50	Subsistence
Sustenance	19/09/2022	5.40	Subsistence
Sustenance	19/09/2022	12.50	Subsistence
Sustenance	19/09/2022	97.02	Travel (gas)
Sustenance	19/09/2022	2.55	Travel (tolls)
Sustenance	19/09/2022	3.20	Travel (tolls)
Sustenance	19/09/2022	4.00	Travel (tolls)
Sustenance	19/09/2022	2.50	Travel (tolls)
Sustenance	19/09/2022	2.20	Travel (tolls)
Sustenance	19/09/2022	2.80	Travel (tolls)
Sustenance	19/09/2022	3.90	Travel (tolls)
Sustenance	19/09/2022	3.50	Travel (tolls)
Sustenance	19/09/2022	1.80	Travel (tolls)
Sustenance	19/09/2022	1.90	Travel (tolls)
Sustenance	19/09/2022	3.85	Travel (tolls)
Sustenance	19/09/2022	3.30	Travel (tolls)
Sustenance	19/09/2022	1.20	Travel (tolls)
Sustenance	19/09/2022	2.10	Travel (tolls)
Sustenance	19/09/2022	1.80	Travel (tolls)
Consumables	21/09/2022	52.55	Fish and supplies
Project Management	June	2,752.38	Human resources
TOTAL		4,997.37	

