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Marine Ecosystem Restoration in Changing European Seas MERCES

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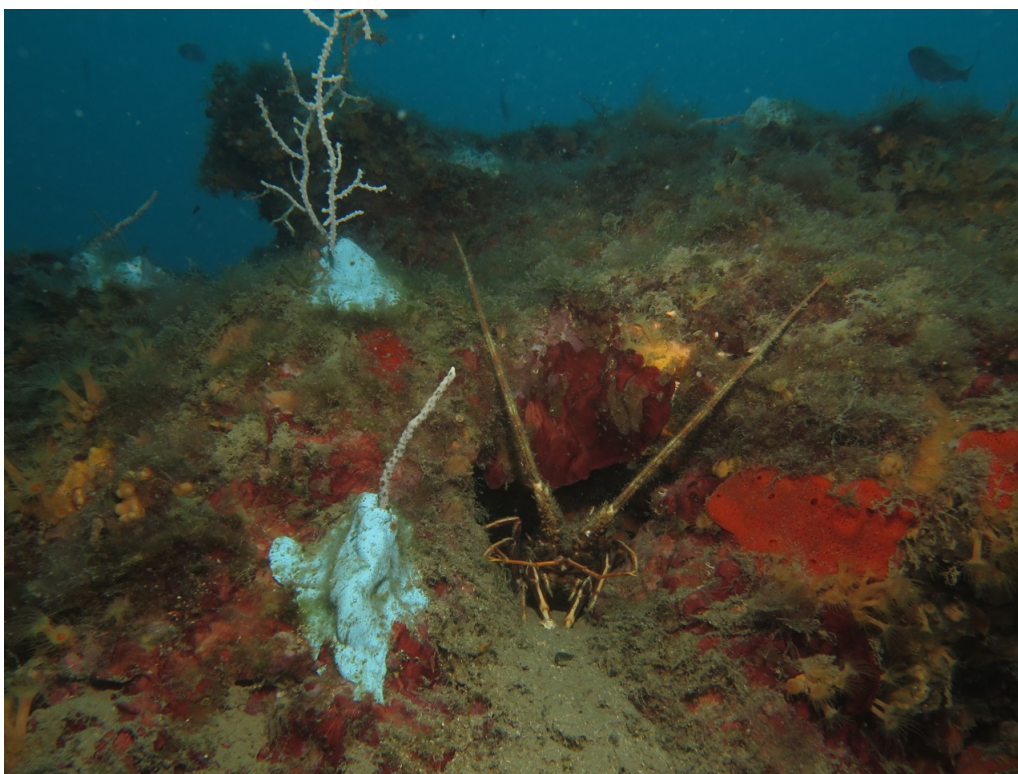


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1. Abstract

In recognition of the many degraded ecosystems and the need to prevent further habitat degradation and halt biodiversity loss, many International and European policies have put conservation and restoration at the top of their environmental agendas. Reducing pressures, minimizing damage, putting areas aside for conservation and implementing rehabilitation and restoration projects are all part of the toolkit available to Governments and global society to support achievement of many high-level policy objectives.

Benefits of terrestrial ecosystem restoration are being showcased by many successful large-scale projects and the practice is being embraced by hundreds of thousands of people across the world. Coastal ecosystems have been extensively used and impacted by multiple human activities over time but restoration, both as a concept and practice, is lagging behind for many strictly marine ecosystems. Besides the many scientific, technological, socioeconomic and feasibility gaps and challenges, little is also known about the social acceptance of marine restoration. Restoration should be a participatory process and stakeholder involvement is important in framing the aims and goals of a restoration project; as is their engagement throughout the project. Restoration is not just about species, habitats and targets, but it is also about societal needs, choices and socioeconomic benefits. Hence, social acceptance is crucial to implement any restoration programme.

Within the MERCES project, the first European H2020 project to focus on restoration of specific key marine ecosystems, stakeholder perceptions have been considered concerning restoration of degraded marine ecosystems – ecosystems we do not even usually get to see. The reasons/motivations behind acceptance of conservation and restoration are investigated, the degrees of agreement with current major policy targets are explored, and points of difference are considered along with modes of support for restorative actions. Two individual surveys were conducted; a Greek national survey, and a European-wide survey by means of an anonymous on-line questionnaire. The survey included 55 individual questions divided into 13 thematic sections tackling important aspects such as subject-awareness, ecosystem degradation, marine protection, restoration needs, marine restoration options, willingness to participate and willingness to pay.

A total of 95 replies were received for the Greek survey and 179 from the European survey. Data were analysed through collating the replies into stakeholder major groups including government (local and central), conservation oriented environmental NGOs and MPA managers, researchers and marine users (professional and recreational). In general, there was a strong agreement between the surveys with only minor differences (in the degree of agreement/disagreement) in some of the “media-hot” pressures and issues (e.g. oil-gas exploration and accidents, taxation issues in Greece) and in levels of knowledge (e.g.

similar familiarity with the term ‘blue growth’ but European responders were more knowledgeable on terrestrial and coastal/marine restoration projects). Almost all of the stakeholders agreed that marine ecosystems have a high value and at least a part of them should be protected (e.g. with MPAs); this included going beyond current policy targets (10% for marine ecosystems), by restricting impacting activities and dealing with pollution. There was also agreement for the need for restoration actions for a part of damaged ecosystems including going beyond current restoration targets (15% for degraded ecosystems). Employing mitigation approaches (e.g. restriction of activities, minimisation of impacts) and a mixture of actions has the full support of almost all the responders with less agreement concerning the need for active interventions (and less so by the Greek stakeholders). Restoration of marine ecosystems was perceived as necessary for the benefit of our economies but more so to the benefit of future generations. The majority of responders disagree with the statement that marine ecosystems are ‘too damaged to be restored,’ with higher disagreements within the NGO stakeholders, although there were more mixed and neutral/do not know responses to the statement ‘marine restoration is too expensive’ with more disagreements from the European responders. There was strong agreement for the ‘polluter pays’ principle in both surveys, but support for ‘no-net-loss’ and for ‘biodiversity offsetting’ approaches (e.g. compensate to the point of loss or offset with a re-created ecosystem elsewhere) was less or conditional to safeguards that will not allow further damage and future abuses.

Overall, there was large support for marine restoration carried out at different spatial levels and funded by different payment vehicles. There is remarkable similarity and positive responses in both surveys with more positive support of restoration by national funds based on annual taxes in the European survey; although there were a number of comments concerning mistrust or misusing of taxes in both surveys. There was a higher level of support for voluntary schemes towards targeted local projects, including participation in crowd-funding schemes and with voluntary actions (e.g. through personal involvement as a diver or citizen scientist). As many restoration projects depend on volunteers, this finding is both encouraging and very important for restoration success and for potential up-scaling to wider restoration coverage. Training volunteers and raising stakeholder and public awareness on new scientific knowledge and approaches (such as transplanting of kelps or deep-sea corals), and popularising successful projects and associated socio-economic benefits will undoubtedly help facilitate the restoration of marine ecosystems.

2. Introduction

Human well-being depends on ecosystem resources, wealth and sustainability, but at the same time human societies and their activities negatively affect ecosystems, their characteristics, functionality and ultimately the goods and services they provide to the world. Habitat degradation, biodiversity loss, over-exploitation of resources, pollution and climate change are the major environmental concerns acting at a global scale and affecting all ecosystems, including the marine. Numerous activities operate at the coasts and off-shore, causing multiple and cumulative ocean impacts (Halpern *et al.* 2008 & 2015, Coll *et al.* 2011, Micheli *et al.* 2013). While the use of marine space and resources is increasing, marine habitats and their services have been declining (Levin & Lubchenco 2008; and references therein; Abelson *et al.* 2016).

Removing threats and pressures is one of the first steps in a mitigation hierarchy, which includes a set of prioritised steps to alleviate environmental harm through avoidance, minimisation, restoration and offset (CSBI 2015), towards ecosystem recovery. Among these, ecological restoration is gaining prominence and becomes critical as natural recovery is often not feasible and ecosystem protection alone is not always sufficient (McDonald *et al.* 2016). Apart from the ecological benefits offered by restoration as seen in many successful terrestrial projects – recovery of biodiversity, complexity and functionality, to name a few – it may also deliver socio-economic benefits, through ecosystem services provision and support of economic development (Blignaut *et al.* 2013). A holistic approach to ecological restoration (Aronson *et al.* 2017; and references therein) should not only target species, habitat or ecosystem recovery, but should also aim to increase awareness regarding socio-economic benefits of restoration linked to increased quality and quantity of ecosystem goods and services.

Restoration may involve different levels and types of human intervention and may aim at different goals (Papadopoulou *et al.* 2017, Abelson *et al.* 2016): such as to return the target system to its pre-disturbance trajectory or range; make sure the targeted species/habitat reach a healthier (sustainable) status; repair a system's structure/function to a certain extent; or provide some function where missing. Common in all these activities is the intent to improve the overall condition or 'health' of the ecosystem in the larger context of its landscape or seascape.

Motivations for restoration are diverse and may include many components (Bishop 2014, Blignaut *et al.* 2016, Hagger *et al.* 2017, Mueller *et al.* 2018). Clewell & Aronson (2006) recognize five general rationales that motivate ecosystem restoration: (a) technocratic, (b) biotic, (c) heuristic, (d) idealistic, and (e) pragmatic. An example of strong motivation for restoration in the first category is the legal requirements for mitigation/compensation measures for environmental impacts or habitat loss. Biodiversity conservation is the most common *biotic* motivation and should be based on ecological knowledge and principles, while *heuristic* motivations consider restoration as an experimental field to feed ecological science by providing

insights to ecological processes. *Idealistic* motivated restoration is mainly undertaken by local communities and is related to psychological attachment to specific areas or natural elements. The *pragmatic* approach to restoration relates to socio-economic aspects such as the provisioning of ecosystem services, or the reversal of habitat degradation. Although biodiversity enhancement is a common motivation for restoration projects undertaken in terrestrial environments (Hagger *et al.* 2017), ‘well conceived and executed ecological restoration requires the melding of the technocratic and idealistic rationals’ (Clewett & Aronson 2006).

Understanding what motivates restoration is currently of extreme importance because of the need to scale-up conservation and restoration to meet international biodiversity commitments (Suding *et al.* 2015) and policy targets set for both the terrestrial and marine environments. These include for example the United Nations Convention on Biological Diversity Nagoya Protocol, Aichi Target 11 which sets a 10% target for the protection of the marine environment by 2020, and the Aichi Target 15, mirrored in the EU Biodiversity Strategy, to restore at least 15% of degraded ecosystems (European Union 2011).

In addressing restoration issues and forming decisions on restoration actions, goals and outcomes, a diversity of stakeholders must be involved and engaged; in this way, different opinions, motivations and views will allow the delivery of multiple benefits and at the same time resolve potential conflicts. Restoration may focus on ecosystems and species, but it is in fact a human effort which should be supported and fed by society and its different parties. Without considering these stakeholders and their needs, a restoration project may not gain the required social support, and thus fail (McDonald *et al.* 2016).

A stakeholder is a person, organisation or group with an interest (professional or societal) or an influence on the marine environment or who is influenced directly or indirectly by activities and management decisions (Newton & Elliot, 2016). A restoration project at a specific site may involve several types of stakeholders: the locals that work or maintain their livelihoods in the area, those that may benefit from the area (e.g., industry or business), local and central authorities or other managers, etc. Newton and Elliot (2016) grouped stakeholders in six categories for the marine system: extractors (of resources, e.g. fish), inputters (e.g. those creating pressures by placing or discharging pollutants or materials into the environment), beneficiaries (those who receive, directly or indirectly, advantages), affectees (those that are affected, mostly negatively, by other users or managers), regulators (including statutory bodies, administrative bodies, etc.) and influencers (all those that have a role in the way marine environment is used, such as politicians, academics, NGOs). Stakeholders influence not only the type of restoration project selected (e.g. through the framing of the problem or project, Floor *et al.* 2018) but also its success through their involvement and engagement either at the planning stages or throughout the project resulting in greater quality, durability and control of decisions (Reed 2008, Reed *et al.* 2018, McDonald *et al.* 2016).

Public perception research helps to see the multiple views society has for the marine environment and the related conservation efforts (Jefferson *et al.* 2015). Perceptions are the subjective way people experience, think about and understand someone or something (Beyerl *et al.* 2016). Perception research is regarded as a social science based on the fields of psychology, sociology and human geography, it is in fact interdisciplinary as it very often uses expertise from natural sciences in order to structure research questions and approaches. This gives public perception research considerable strength, especially in the context of marine conservation (Jefferson *et al.* 2010). Existing research on public perceptions of the marine environment has significantly increased over the last decade and is used extensively by policy makers, managers, researchers, conservationists and educators, investigating preferences and concerns (Jefferson *et al.* 2014, Lotze *et al.* 2018). Various thematic areas may be covered, and these include, for example, a recent public consultation by the EU on reducing marine litter and single-use plastics (<https://ec.europa.eu/eusurvey/runner/Singleuseplastics>) and another one on considering attitudes to sharks (https://freeonlinesurveys.com/s/tGwh6iNI#). Public perception research has been also carried out within the framework of several EU projects, such as the FP7 BENTHIS project (www.benthis.eu), within which stakeholder perceptions on bottom trawling impacts and management options were investigated in four European regional seas and six countries (Soma *et al.* 2018). TROPOS, another EU project has also looked at stakeholder acceptance of marine renewable farms and multifunctional platforms, while the KNOWSEAS project carried out a survey on European attitudes towards marine and coastal environments and potential support for maritime spatial planning (Potts *et al.* 2011, 2016). Very recently, the DG MARE project Protomedea investigated stakeholder perceptions and potential support for a new network of new MPAs in the Eastern Mediterranean (Greece and Cyprus), as a biodiversity conservation and sustainable fisheries management tool (Papadopoulou *et al.* 2018).

Surveys of public awareness can be of several types, such as questionnaires, interviews and focus groups. They may be targeted to the viewpoints of the citizens and the general public, with usually a high number of participants, or to the perceptions of specific stakeholders or stakeholder groups. While a number of surveys exist, directed to marine protection issues (Hawkins *et al.* 2016 and references therein, Lotze *et al.* 2018 and references therein), there is still no relevant research focusing on aspects of marine ecosystem restoration.

The overall scope of this deliverable is to assess aspects of the social acceptance of marine ecosystem restoration activities. The MERCES survey was designed in such a way to investigate stakeholder perceptions, beliefs, and motivations concerning the acceptance of marine restoration and the preferred ways to support restoration projects/actions. The survey targeted stakeholder groups to record the main discourse within a group, but also to trace the main views and any conflicts. The methodology used was based on online questionnaires, which were distributed to a wide range of stakeholders primarily within three stakeholder groups (research, government (national, regional and local), and environmental NGOs).

The questions represent a range of themes around the issue of ecological restoration and marine environmental concerns. The results and analysis of this survey is expected to provide information to policy makers, public planners and potential investors.

3. Methodology

A variety of methods exist to elucidate stakeholder perceptions, among which are focus groups, interviews, polling and questionnaires. For this study the selected method to reach a sufficiently large number of the target stakeholder groups (i.e. research, NGO, government stakeholders) was by the distribution of structured online questionnaires. Two identical surveys were conducted, one investigating the perceptions of the Greek stakeholders and a second one, looking at the perceptions of European stakeholders. The questionnaire is totally anonymous, no names or emails were requested or given, no IPs retained and the answers provided cannot be linked to a participant - anonymity of the information is thus guaranteed at all stages of the process including reporting on preferences and any subsequent publication of results. This survey fully complies with the new General Data Protection Regulation (GDPR) (EU)2016/679 and Greek guidelines/law. The links to the European and Greek surveys can be found at:

https://docs.google.com/forms/d/1eqKldHQSIGZl3NpaXSi8Tm5m6NgnQ2P7AT3RMfxP_EU/edit?ts=5a8412db

and

<https://docs.google.com/forms/d/1-v1ZGNph28bR5FJrRnaUo9wlaeM4mAjmOzrNerw84Qo/edit?ts=5a842f79>

The English version of the questionnaire is also given in Annex 1.

3.1. Questionnaire Process

The complete questionnaire developmental process was as follows:

1. Identify preferred format of questions (Likert rating scale, statement and questions types).
2. Identify basic theme question areas (e.g., protection of habitats, natural capital, ecosystem services, restoration approaches, reasons to support restoration etc.)
3. Internal focus group, initial preparation and testing/deliberation of the questionnaire followed by further deliberation, testing, screening and final selection of questions (from 85 prospective to 55 selected questions)
4. Online building of the questionnaire using Google Forms
5. In-house testing of questionnaires

6. Identification of stakeholders (e.g. list of environmental and conservation oriented NGO types to send the link to the questionnaire) and appropriate related social media sites (e.g., MEDPAN, UNEP/MAP RAC-SPA, MIO-ECSDE, SER, etc.) and research projects and groups (e.g., THEMIS NATURA LIFE, PROTOMEDEA, MANTIS, etc.) to host posts/re-post on the survey.
7. Invitation to stakeholders to participate to the online survey and fill in the questionnaire
8. Collation of completed questionnaires
9. Assessment of stakeholder responses
10. Targeted invitation to additional stakeholders (gap/representation filling in terms of stakeholder types or countries)
11. Final collation of questionnaires and responses
12. Analysis of responses (numerical, basic statistics) and stakeholder feedback (specific stakeholder comments in the questionnaires).

3.2. Question Types

The questionnaire was extensive with several formats of questions, mostly checkbox or checkbox grid types:

1. Category questions: to what category does the responder belong (identification of responder characteristics, e.g. age-group, level of education, etc.).
2. Yes/No questions (e.g. have you heard before the term ‘natural capital’?).
3. Statement-response types, where the responders mark:
 - i. their agreement or disagreement with various statements through tick boxes choosing from a) strongly agree, b) agree, c) neutral, d) disagree, e) strongly disagree, f) I do not know
 - ii. their opinion on the importance of several issues through checkboxes choosing from: a) very high, b) high, c) moderate, d) little, e) not at all, f) I do not know
 - iii. their opinion on the level of threats through checkboxes choosing from: a) very high, b) high, c) moderate, d) little, e) no, f) I do not know
 - iv. their view on environmental status through checkboxes choosing from: a) very good, b) good, c) poor, d) bad, e) I do not know
 - v. the likelihood to support restoration activities through checkboxes choosing from: a) very likely, b) likely, c) neutral, d) unlikely, e) very unlikely, f) I do not know.
4. For each question, space was given to the responders to add comments or to further explain their response. At the end of the questionnaire a separate field was also created for inserting overall comments/suggestions.

3.3. Question Sections

The questionnaire aimed to record the views of a few groups of stakeholders on the acceptance of marine restoration, and their preferences on ways to support restoration. Overall, 7 sections, and 13 theme areas (T1-T13) were built with a total of 55 questions (Q1-55) (and shown in Table 1), not including those on demographics.

- Stakeholder types and Demographics: 5 questions: anonymous information about gender, age group, education level, country, stakeholder type.
- On Activities and Pressures: 4 knowledge and perceptions theme areas with questions looking at economic activities as threats for the marine environment and as economic assets, including ‘blue growth’. Knowledge questions directly ask if the responder knows about an issue, while perception questions ask about views/opinions/preferences.
- About marine protection in general: 3 questions looking at acceptability of protection of marine ecosystems and preferences for targets.
- About ecosystem services and importance of the oceans: 3 theme areas with 6 questions querring the stakeholders’ knowledge about the terms ‘natural capital’ and ‘ecosystem services’ and ranking their importance.
- About the need/want or not of restoring: 4 questions looking at the reasoning behind supporting marine restoration: why to restore, who pays, to what point.
- About marine ecosystems in the responder’s country: 2 theme areas with 8 knowledge questions on protected species and areas, threatened species/ecosystems, ecosystem status of overall, coastal and deep waters, and on marine and terrestrial restoration projects in the country of the stakeholder.
- Marine restoration and available options: 12 questions investigating the views of the responder regarding acceptability of marine ecosystem restoration, preference for targets (how much should be restored), type of restoration actions (active, ‘passive’, combination), value and cost issues, beliefs and preferences about restoration.
- Willingness to support marine restoration: 4 questions exploring the willingness and mechanisms/potential ways to support marine restoration activities.

Table 1. Questionnaire sections, theme areas and questions.

Section	Theme Areas (T)	Questions (Q)	AA
Section 1: On Activities/Pressures	T1: How much of a threat (if any) do you think these 7 activities pose to the marine environment in your country?	Agriculture	1
		Aquaculture	2
		Coastal development	3
		Fishing	4
		Marine transport	5
		Oil-gas exploitation drilling/rigs	6
		Tourism/Recreation	7
	T2	Have you heard before/are you familiar with the term Blue Growth?	8
	T3: In your view, how important are these 5 blue economy sectors in your country?	Aquaculture	9
		Coastal/Maritime tourism	10
		Fishing	11
		Marine transport	12
		Oil-gas exploitation drilling/rigs	13
	T4: How much of a threat (if any) do you think these 5 pressures pose to the marine environment in your country?	Alien/Invasive species	14
		Chemicals/Organics/Pollution	15
		Overfishing	16
		Habitat destruction/Physical modification	17
		Marine litter and plastics	18
Section 2: About marine protection in general	T5: Protection. Do you agree/disagree with the following	A part of marine ecosystems should be protected (e.g. with MPAs, NATURAs, etc)	19
		We should protect 10% of marine ecosystems	20
		We should protect more than 10%	21
Section 3: About ecosystem services/importance of the oceans	T6	Have you heard before the term natural capital?	22
	T7	Have you heard before the term ecosystem services?	23
	T8: How important are these marine ecosystem services to you?	Provisioning, e.g. seafood	24
		Supporting, e.g. habitat	25
		Regulating, e.g. climate regulation	26
		Cultural, e.g. recreation, culture, identity	27
Section 4: Statements about the need/want or not of restoring	T9: Restoration. Do you agree/disagree with the following statements?	We need to restore marine ecosystems to the benefit of our economies	28
		We have the responsibility to restore marine ecosystems for the benefit of future generations	29
		"Polluter pays", if we damage, we need to pay for restorative actions (e.g. oil spills)	30
		No net loss of biodiversity/ecosystem services: damages and losses resulting from human activities in one area must be balanced by a gain elsewhere provided that we remain at the no net loss point	31
		Do you know of any damaged ecosystems/threatened species/ecosystems in your country?	32
Section 5: About marine ecosystems in your country	T10: Questions about species and ecosystems	Do you know of any protected species/ecosystems in your country?	33
		Do you know of any MPAs in your country?	34
		Do you know of any marine restoration project in your country?	35
		Do you know of any terrestrial restoration project in your country?	36
		How would you rate the overall status of the marine ecosystems in your country?	37
	T11: Questions about ecosystem status	How would you rate the overall status of the coastal waters in your country?	38
		How would you rate the overall status of the deep waters in your country?	39
Section 6: Marine restoration – Options	T12: Marine restoration options. Do you agree/disagree with the following statements?	A part of marine ecosystems should be restored (e.g. by transplanting corals/seagrass/kelp)	40
		We should restore 15% of marine ecosystems	41
		We should do more than 15%	42
		We should restrict impacting activities	43
		We should deal with pollution and other problems	44
		Active interventions are required (e.g. planting corals)	45
		A mixture of actions is required	46
		Marine restoration can reverse negative human impacts	47
		Marine habitats are too damaged to be restored	48
		Marine restoration is too expensive	49
		Marine ecosystems have high value	50
		It does not matter if we restore a system in its original location or if we re-create a similar system elsewhere	51
Section 7: Participating/Supporting / Paying	T13: How likely would you be to support the following?	A national restoration fund by paying an annual tax	52
		A regional/local restoration fund by paying an annual fee to local authorities	53
		A targeted local restoration project, e.g. for transplanting seagrass/kelp/corals in a specific area, by one-off donation or by participating in a crowdfunding campaign	54
		Volunteer to support a local restoration project, e.g. by diving, fishing aquarium duty, etc	55

3.4. Focus Group and Testing

The focus group was made up from the MERCES project participant scientists covering different disciplines and with expertise on marine ecology and ecosystem-based marine management, terrestrial ecology and restoration, social science with emphasis on society's connections to the marine environment, governance and policy issues and socio-economic aspects including ecosystem services, valuations and payment vehicles. The questions/statements for questions were developed through several iterations and grouped into thematic areas. The questionnaire was set-up in English (and then on translated into Greek for the Greek survey). Testing was carried out by personnel from the participating institutions, to check for clarity/comprehension, consistency, overlap and time required to complete the questionnaire (target time was 15 minutes).

3.5. Identification of Stakeholders, Distribution, Collation and Re-targeting

Stakeholder types were identified by the focus group. The target groups for the Greek survey included research, NGO, government (local, regional and national) and recreational users (with emphasis on divers); the European survey mostly focussed on research, NGOs and government. In Greece, lists of potential stakeholders were collated (e.g. by looking at environmental NGO websites and Facebook sites, searching for Greek diving associations, etc.) and e-mails with invitations to participate to the survey and link to the online survey were sent. After a given internal deadline for the collation of the original mailing list, a quick analysis was completed to identify missing or low numbers in particular stakeholder groups. Additional responders were then targeted to fill these gaps. Efforts included involving interested scientists working on conservation (e.g. in national government and international organisations, including FAO, or in NGOs) and partners working on MERCES case studies countries, while a dedicated leaflet was circulated to various meetings and conferences. Related social media posts were also created and forwarded to many relevant outlets (see questionnaire process above for examples).

3.6. Analysis of Questionnaires

All responses were automatically collected in Excel spreadsheets including real time response information. Two separate files were created and used for the analysis, one including all responses from Greece and one with all the responses to the European survey. Data analysis was based on the number of replies for the different category questions, for which overall percentages were calculated, as well as by stakeholder groups. Results were graphed as simple pie charts (overall replies to the questions) as shown in the results or as stacked bar charts (percentage replies by stakeholder group) as shown in Annexes 2 and 3. Any written comments in response to the questions by the responders were also noted separately.

4. Results

4.1. Results Greece

The overall results of the Greek stakeholders are shown in Figures 1-14 with individual stakeholder group replies shown in Annexe 2, corresponding Figures 1-14.

4.1.1 *Stakeholders demographics-basic stats*

There were 95 replies to the online and distributed questionnaires in Greece. These were grouped into different stakeholder categories as shown in Figure 1. The largest two groups were researchers (32% from Universities, research centres and consultancy firms) and government (26% from central, regional and local government levels). The next largest group was non-governmental organisations (NGOs - 21%). Smaller groups included the recreational users (particularly divers and underwater photographers) (13%), MPA and NATURA 2000 (MPA+ = MPA/N2000) managers (5%) and the other stakeholder category (3%, professional users e.g. fishers and divers). The MPA/N2000 managers were kept separately as these management bodies are legally defined as independent non-governmental bodies in charge of respective sites (i.e. they could be part of NGOs but not part of Government).

The responders taking part in the survey were predominantly male (63%) with females at 35% and unstated mostly from some form of government (2%) (Figure 1). The age of stakeholders was predominantly in the 46-65 (51%) and 26-45 (46%) age categories. The majority (65%) of the NGO stakeholders were in the 26-45 age class while the opposite was true for the MPA managers and researchers (80 and 57% respectively in the 46-65 age class). The largest part of the stakeholders (51%) had University qualifications (represented by all stakeholder types) followed by a large part (38%) who had PhDs (reflected partly by the high number of researchers), however all the stakeholder groups including MPA managers, NGOs and underwater photographers except others/professional users had representatives with PhDs). Only a small percentage of stakeholders (mostly from the recreational or professional users) had only primary education (high school) qualifications (12%). All the recreational and professional users were males, males and females were equally represented in government and NGOs, while only 30% of stakeholders in Research were females.

4.1.2 *Theme 1 Activities and Threats, Q1-7*

The majority (78-84%) of the stakeholders agree that oil-gas, fishing and coastal development activities represent a very high/high threat to the marine environment, while aquaculture, agriculture and tourism/recreation represent a moderate threat (35-37% agreement). The majority (75-80%, compared with other groups) of MPA/N2000 managers and recreational users agree that oil-gas represents a very high threat activity. The majority (60%) of MPA/N2000 managers agree that coastal development represents a very high threat while less than 20% of recreational users agree with this statement. Higher numbers (67%

majority) of professional users agree that fishing and agriculture represent a very high threat with 50% and 5% of NGOs agreeing with these statements. Only 2-12% of the stakeholders agree that (any of) these activities represent a small threat.

4.1.3 Theme 2 Blue Growth, Q8

The majority (78%) of the stakeholders were familiar with the term 'blue growth'. This was the case for all the stakeholder groups except the recreational users the majority of which (75%) did not know the term.

4.1.4 Theme 3 Blue Growth Sectors, Q9-13

The vast majority (91-96%) of the stakeholders agree that coastal/marine tourism and maritime transport represent an economic activity of very high/high importance for the country, followed by aquaculture and fishing (77-79%). This is in agreement with official data, showing coastal/marine tourism and marine transport as the top two important activities in terms of both jobs and value (http://ec.europa.eu/assets/mare/infographics/#_Greece_Mediterranean_Sea). There were no differences in views between stakeholders about the importance of coastal tourism or marine transport. Fishing was considered a very important activity by all the professional users, while these views were least supported by the recreational users, MPA/N2000 managers and researchers (17%, 20 and 23% agreement respectively). There were more mixed views on oil-gas with 23% of the stakeholders agreeing that the activity is of high importance, while 25% and 25% of stakeholders thought that the activity has a moderate and little/no importance respectively.

4.1.5 Theme 4 Pressure Threats, Q14-18

The vast majority of stakeholders (96-98%) agree that marine litter and plastics along with overfishing represent very high/high threats to the environment, followed by Chemicals/Organics/Pollution (90%), habitat destruction/physical modification (90%) and Alien/Invasive species (76% agreement). There were no major differences in the views of the different stakeholder groups. However, a higher number of government stakeholders consider overfishing a high, instead of very high, threat; likewise 23% of researchers consider alien species a moderate threat. Only 3 and 2% of the stakeholders (all from government and research) agree that alien species invasions and pollution represent no threat or a small threat.

4.1.6 Theme 5 Ecosystem Protection, Q19-21

The vast majority of stakeholders (91%) strongly agree/agree that a part of marine ecosystems should be protected (e.g. with MPAs, NATURAs, etc.).

There were mixed responses, in the statement ‘we should protect 10% of marine ecosystems’ with almost equal split between preferences for strongly agree, agree, neutral, disagree and not stated. The vast majority of stakeholders (84%) however strongly agree/agree that we should protect more than 10% of marine ecosystems. Stronger disagreements (between 30 and 33%) were seen with the 10% protection statement in the NGO and professional users categories, however, this turned into 100% agreement for the NGOs with the statement that we should protect more than 10% of ecosystems with the professional users still disagreeing.

4.1.7 Theme 6 Natural Capital, Q22

The majority (82%) of the stakeholders were familiar with the term ‘natural capital’. However, between 32-42% of recreational and professional users and stakeholders in government did not know the term.

4.1.8 Theme 7 Ecosystem Services, Q23

The majority (73%) of the stakeholders were familiar with the term ‘ecosystem services’. This was the case for all the stakeholder groups except the recreational users, the majority of which (75%) did not know the term. In addition, 33 and 40% professional users and government respectively did not know the term.

4.1.9 Theme 8 Individual Ecosystem Services, Q24-27

The majority of stakeholders (63-55%) considered that regulating and supporting ecosystem services are of very high importance followed by provisioning and cultural services (50 and 44% agreement respectively). There were few differences on degrees of agreement between stakeholders. For example very few stakeholders (3%), all of them from research (10% of research stakeholders) considered that provisioning services have little importance. Less stakeholders in government (compared with other groups) agree with the statement that cultural services have very high importance (with the majority agreeing with high importance).

4.1.10 Theme 9 Needs to Restore, Q28-31

The vast majority of stakeholders (87%) strongly agree/agree that we need to restore marine ecosystems to the benefit of our economies, with least agreement seen with the MPA/N2000 managers (60%).

Almost all the stakeholders (98%) (with no differences between groups) strongly agree/agree that we have the responsibility to restore marine ecosystems for the benefit of future generations.

The vast majority of the stakeholders strongly agree/agree with the “Polluter pays” principle, i.e. if we damage, we need to pay for restorative actions (e.g. oil spills). There were only few differences in the

degree of agreement between strongly agree and agree (with less research and professional users strongly agreeing with this statement).

There were mixed responses, in the statement “No net loss of biodiversity/ecosystem services: damages and losses resulting from human activities in one area must be balanced by a gain elsewhere provided that we remain at the no net loss point”. While 53% of the stakeholders were positive to the idea, the remaining stakeholders strongly disagreed/disagreed or were neutral to this statement. There was much less agreement from the NGOs (35% agreement only) (followed by research and government) with more stakeholders from the NGOs taking a neutral position (35 % agreement).

4.1.11 Theme 10 Species and Ecosystems, Q32-36

The vast majority of stakeholders (91-93%) were aware of “Damaged ecosystems/threatened species/ecosystems” and “Protected species/ecosystems” in Greece (with some providing examples in the comments section). By comparison, more stakeholders from the government were not aware of damaged/threatened or protected species/ecosystems.

One fourth of the responders did not know of any Greek MPAs. By comparison, more recreational users and stakeholders from government did not know of any MPAs.

The majority of the responders (60%) did not know any marine restoration projects in Greece but among the remaining more knowledgeable stakeholders some provided examples (these included Natura 2000 areas, artificial reefs, and specific remediation and restoration actions in coastal habitats such as sand dunes and river/lake environments). By comparison, more stakeholders from government and research did not know of any marine restoration projects.

Half of the responders (50%) did not know any terrestrial restoration project in Greece but a few provided examples (such as efforts to restore burnt forests and the Brown Bear Conservation Program). By comparison, more recreational users and stakeholders from government did not know of any terrestrial restoration projects.

4.1.12 Theme 11 Ecosystem Status, Q37-39

Around 76% of the stakeholders thought that the overall ecosystem status of marine ecosystems in Greece was good or moderate, with 4% agreeing with a very good status. Around 70% of the stakeholders thought that the ecosystem status of the coastal marine ecosystems in Greece was good or moderate with the remaining stakeholders split between bad status and unknown. Around 46% of the stakeholders thought that the ecosystem status of the deep marine ecosystems in Greece was good or moderate, while 10% thought of it as very good, and 40% did not know. In all 3 questions, more stakeholders from the

government thought that the status of marine ecosystems in Greece was very good. By comparison, a lot more of the NGO stakeholders (45 and 65% respectively) thought that the status of marine ecosystems and coastal waters in Greece was moderate. Between 50-60% of MPA/N2000 managers, recreational users and NGO did not know the status of deep sea waters of Greece.

4.1.13 Theme 12 Options for Restoration, Q40-51

The majority of stakeholders (54%) strongly agree/agree that a part of marine ecosystems should be restored (e.g. by transplanting corals/seagrass/kelp). There were more recreational users (67%) in agreement with this statement and less so from the professional users (33%), with the remaining stakeholders in between.

There were mixed responses to the statement “we should restore 15% of marine ecosystems” with 28% of responders agreeing, 27% neutral, 18% disagreeing and the remaining did not know or did not state a preference. As with the question above, a considerable part of the stakeholders, especially in research and government, were neutral to this statement.

The majority of the responders (58%) strongly agree/agree with the statement “we should do more than 15%” with again some remaining neutral or did not know (20 and 15% respectively). There were more recreational users (83%) in agreement with this statement and less so from the researchers (47%), with the remaining stakeholders in between. A considerable proportion of the stakeholders, especially in research and government, were neutral to this statement as well.

Almost all stakeholders (92-100%) strongly agree/agree that we should restrict impacting activities and we should deal with pollution and other problems.

Around 50% of the stakeholders strongly agree/agree that active interventions are required (e.g. planting corals) with greater agreements within the recreational users and NGOs/MPA/N2000 managers, however around 40% were neutral to the idea or did not know. Almost all stakeholders (97%) strongly agree/agree that a mixture of actions is required.

Around 58% of the stakeholders strongly agree/agree that “marine restoration can reverse negative human impacts”; however while 91% of recreational users were in agreement with this statement only 30% of the researchers agreed with this statement. Around 30% of the stakeholders were neutral to the idea or did not know (including professional users and research).

Around 55% of the stakeholders strongly disagree/disagree that marine habitats are too damaged to be restored with the remaining stakeholders being equally split between taking a neutral or do not know position. The strongest disagreement with this statement was with the NGOs (65%) and the least with the professional users (33%).

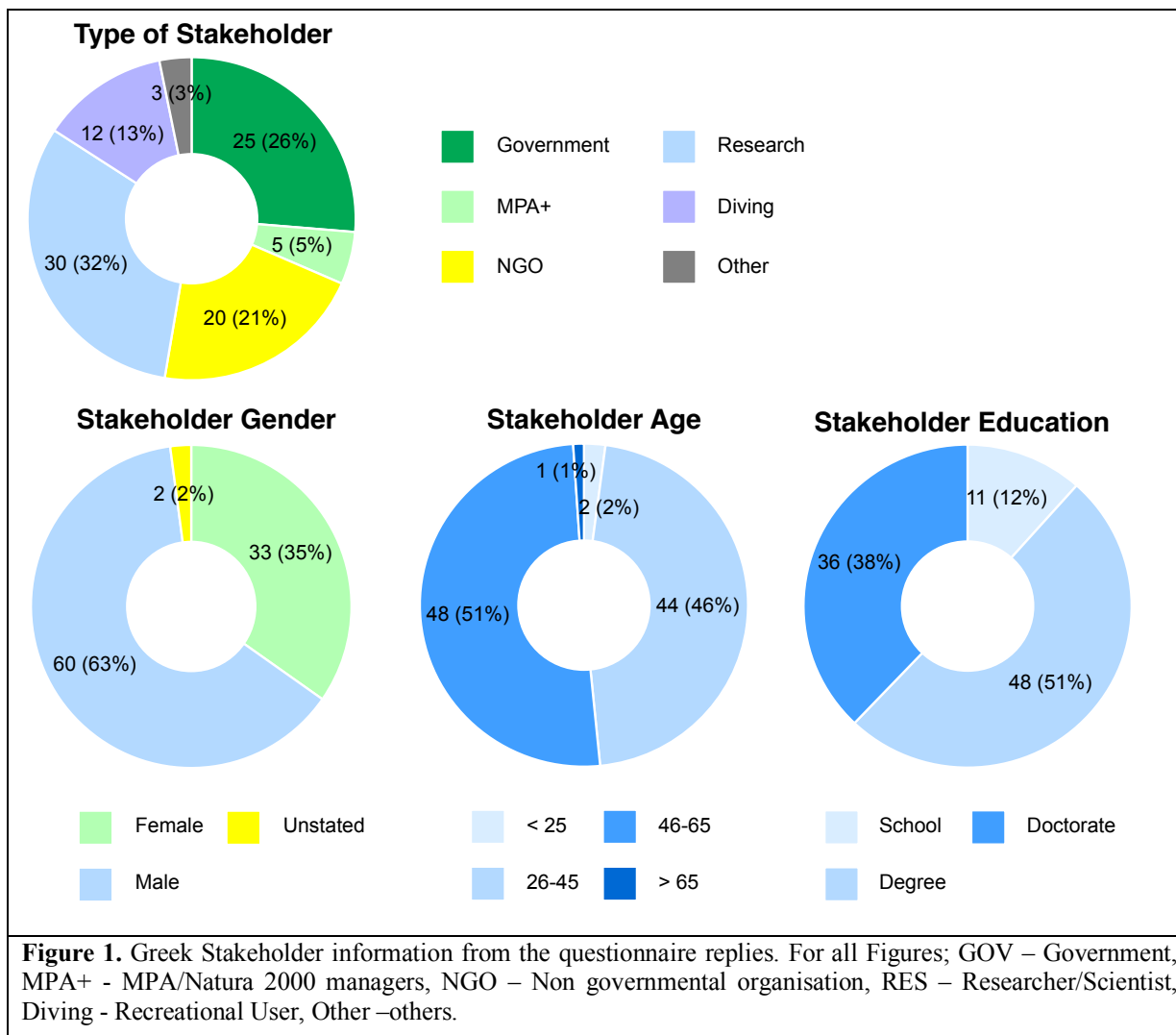
There were mixed responses to the statement “marine restoration is too expensive” with the stakeholders almost equally split between do not know (28%), strongly disagree/disagree (27%), followed by neutral (21%), strongly agree/agree (21%). Around 40% of government stakeholders did not know and 40% of researchers and MPA/N2000 managers thought marine restoration was too expensive. But 40% and 35% respectively of MPA/N2000 managers and NGOs disagreed with this statement.

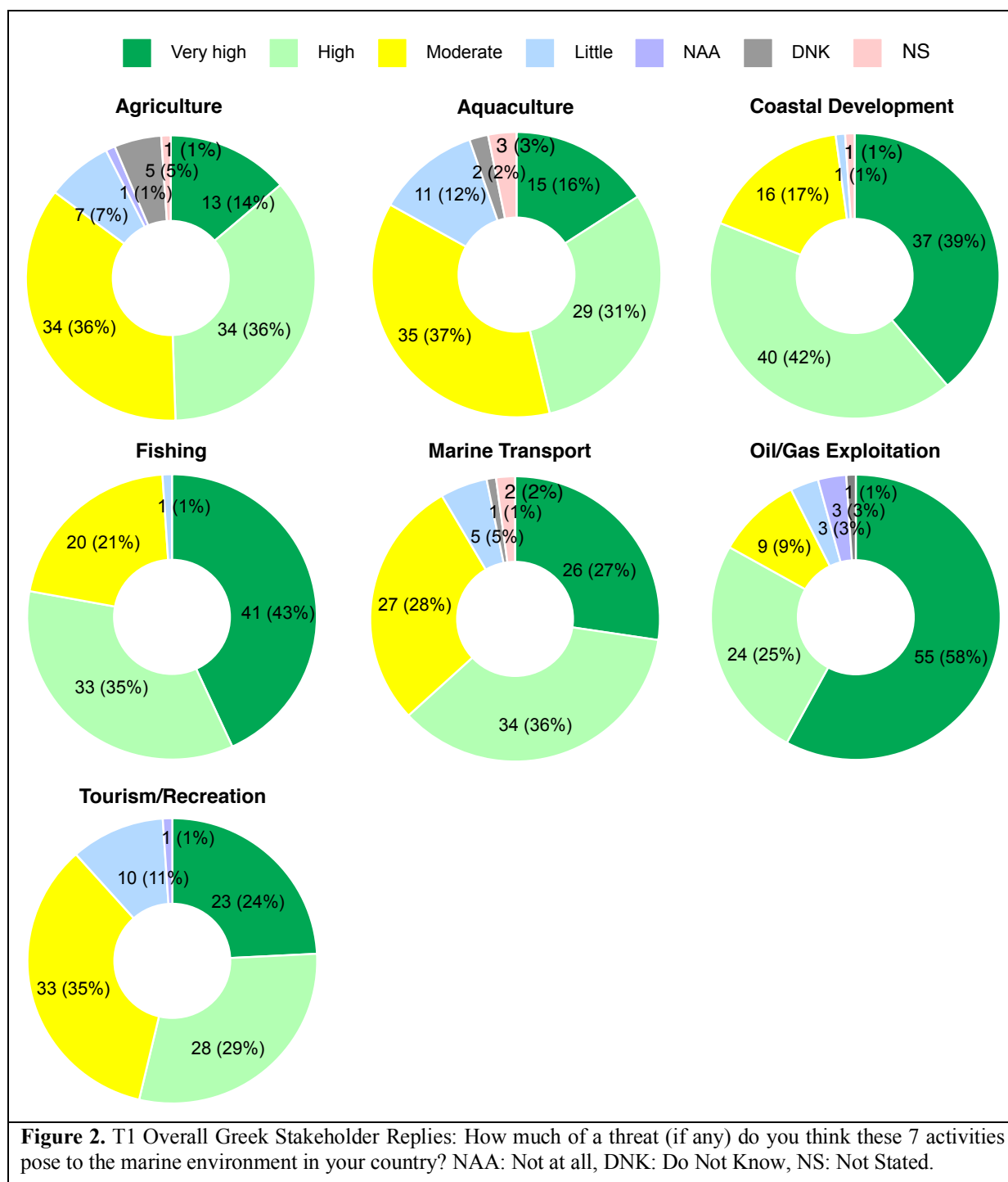
Almost all stakeholders (95%) strongly agree/agree that “marine ecosystems have high value” with least agreement (84%) from government stakeholders.

The majority of stakeholders (61%) strongly disagree/disagree with the statement “it does not matter if we restore a system in its original location or if we re-create a similar system elsewhere” with the remaining stakeholders being split between a neutral position and do not know. However a considerable part of government and NGOs (28 and 20% respectively) were neutral to this statement. The large majority of professional users did not know (67%) with the rest being neutral.

4.1.14 Theme 13 Supporting Restoration, Q52-55

A little less than half of the stakeholders would likely/very likely support a national restoration fund by paying an annual tax, a regional/local restoration fund by paying an annual fee to local authorities or a targeted local restoration project, e.g. for transplanting seagrass/kelp/corals in a specific area, by one-off donation or by participating in a crowd-funding campaign. More stakeholders (68%) would however likely/very likely volunteer to support a local restoration project, e.g. by diving, fishing, providing a fishing or other vessel, contributing with marine aquarium duty, etc. Almost all of the recreational and professional users would likely/very likely volunteer to support a local restoration project with least support seen by the government stakeholders more of which would support a targeted local restoration project or a regional/local restoration fund by paying an annual fee to local authorities. In agreement with the government stakeholders, 60% of the MPA/N2000 managers would support a regional/local restoration fund by paying an annual fee to local authorities. Around 67-68% of government and recreational users would very likely/likely support a targeted local restoration project (e.g. for transplanting seagrass) but only 43 and 33% respectively of researchers and professional users had the same response. Between 30 and 33% of research, NGO and professional users were neutral to such a project.





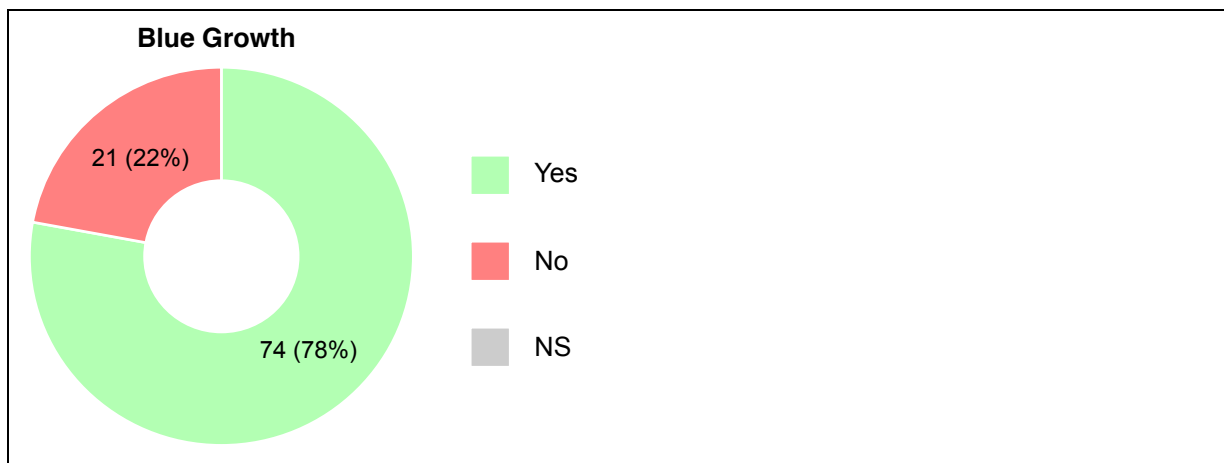


Figure 3. T2 Overall Greek Stakeholder Replies: Have you heard before/are you familiar with the term Blue Growth? NS: Not Stated.

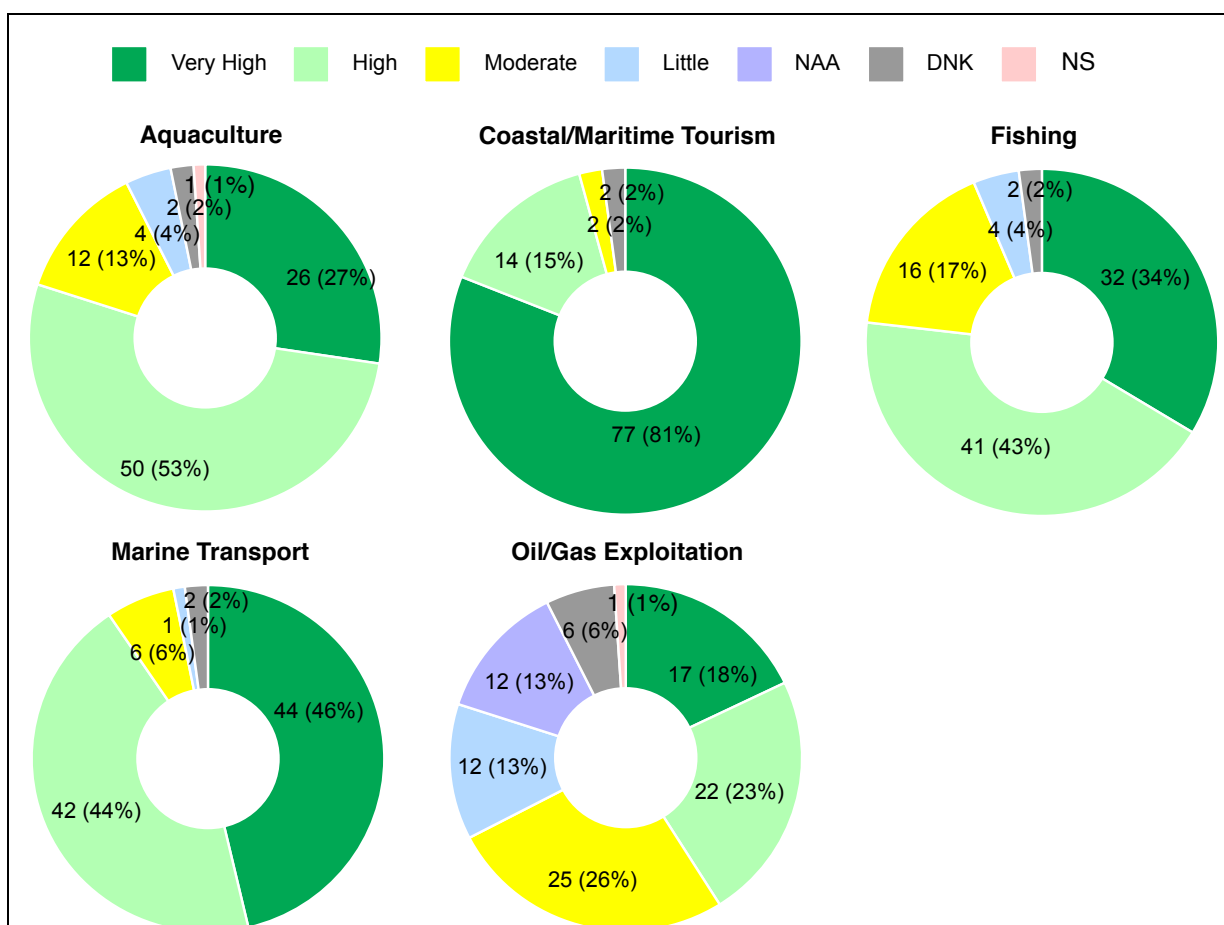


Figure 4. T3 Overall Greek Stakeholder Replies: In your view, how important are these 5 blue economy sectors in your country? NAA: Not at all, DNK: Do Not Know, NS: Not Stated.

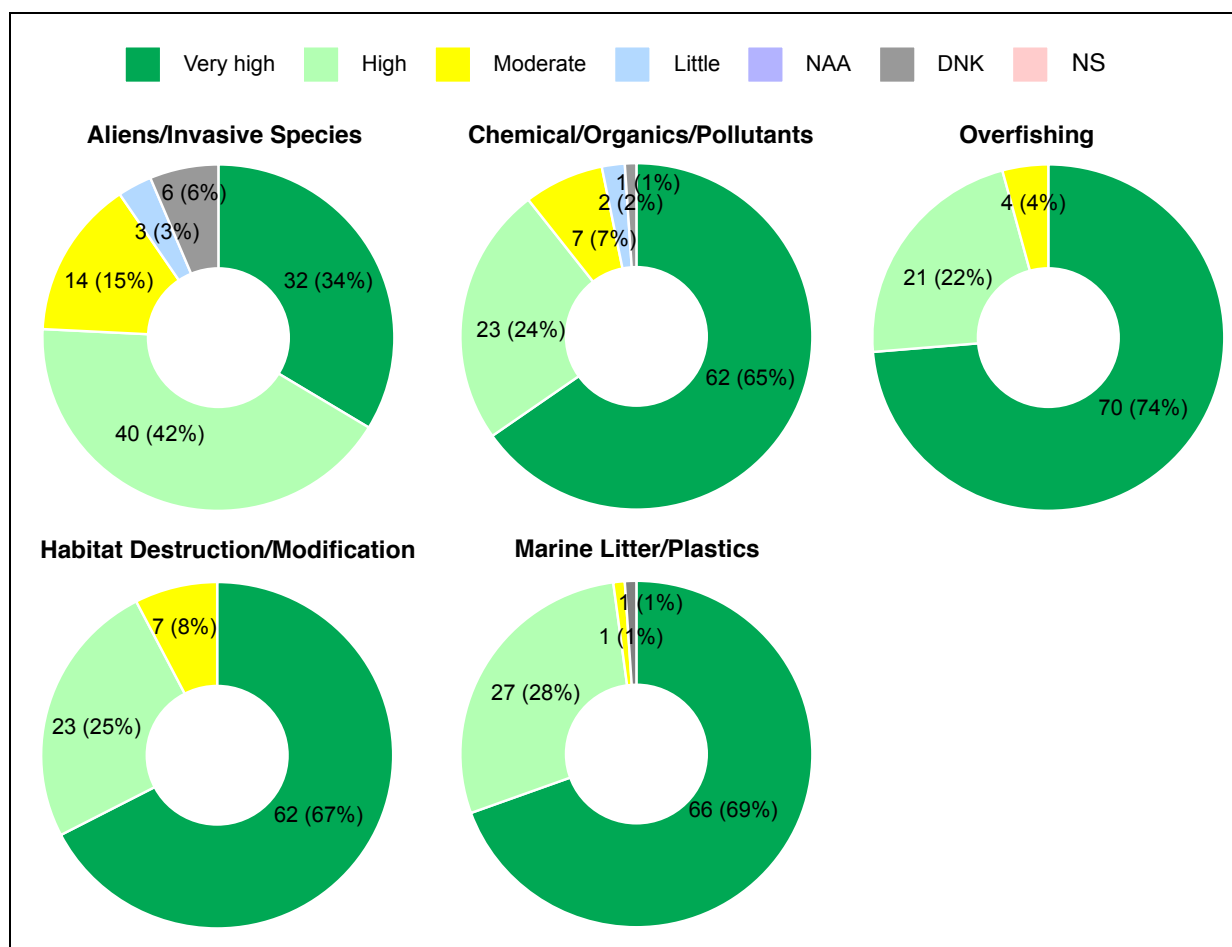


Figure 5. T4 Overall Greek Stakeholder Replies: How much of a threat (if any) do you think these 5 pressures pose to the marine environment in your country? NAA: Not at all, DNK: Do Not Know, NS: Not Stated.

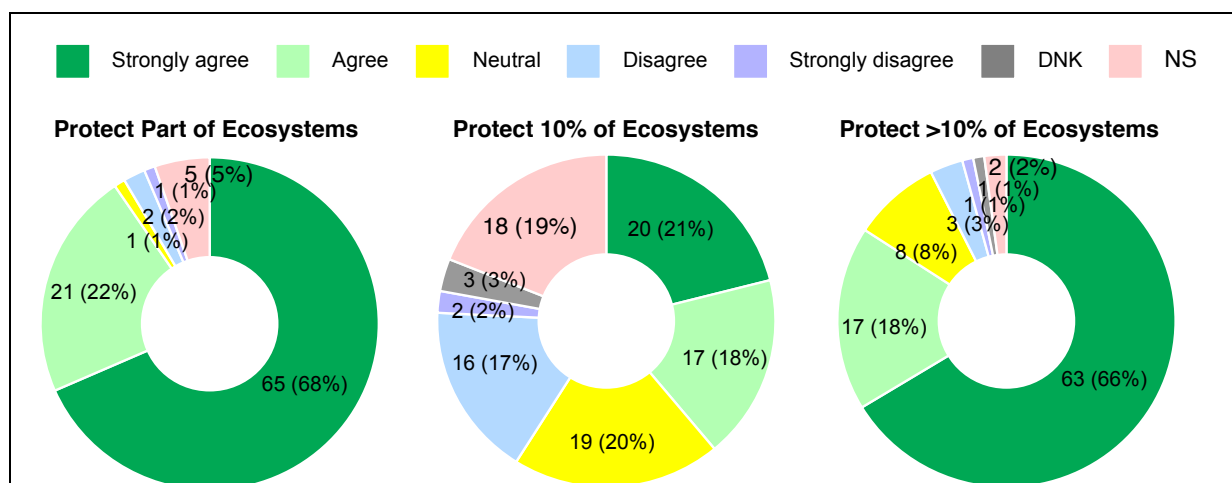


Figure 6. T5 Overall Greek Stakeholder Replies: Do you agree/disagree with the following statements? DNK: Do Not Know, NS: Not Stated.

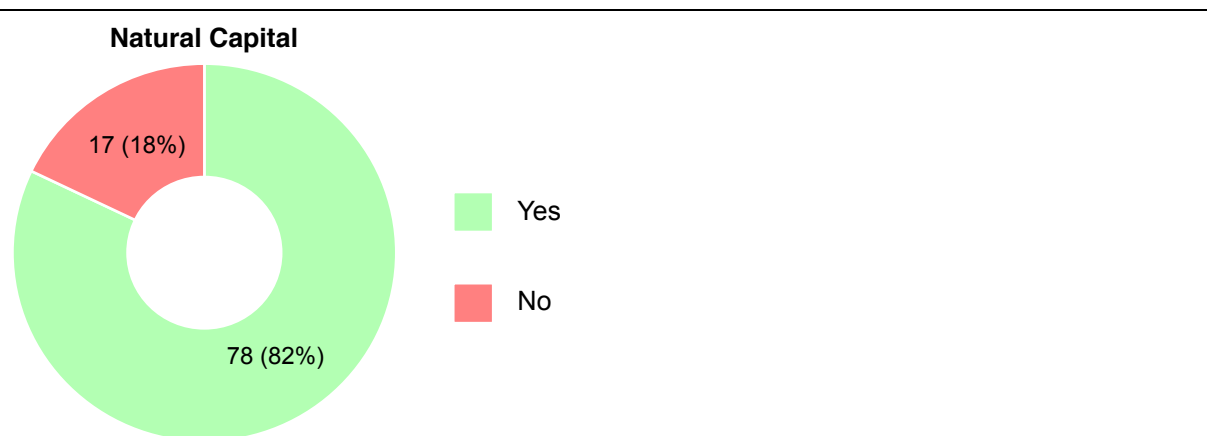


Figure 7. T6 Overall Greek Stakeholder Replies: Have you heard before/are you familiar with the term Natural Capital?

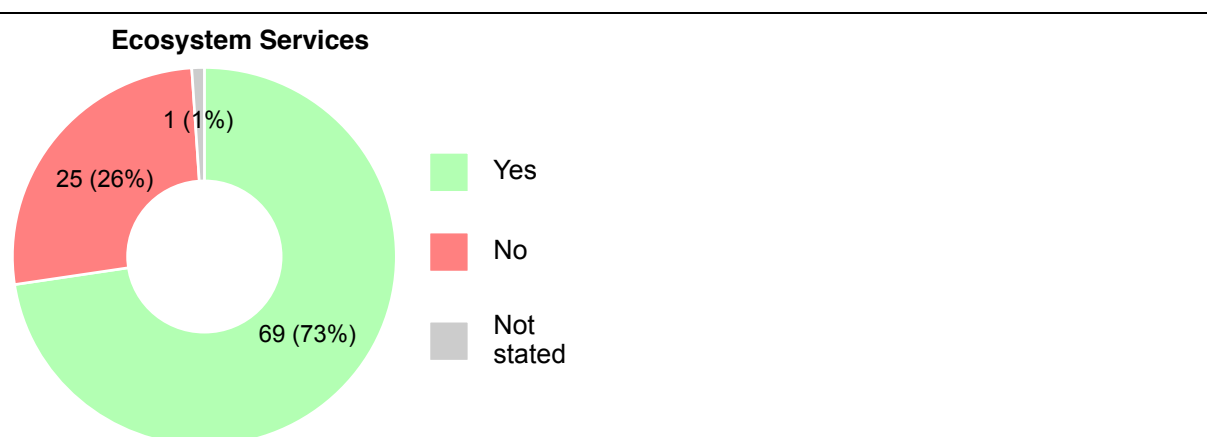
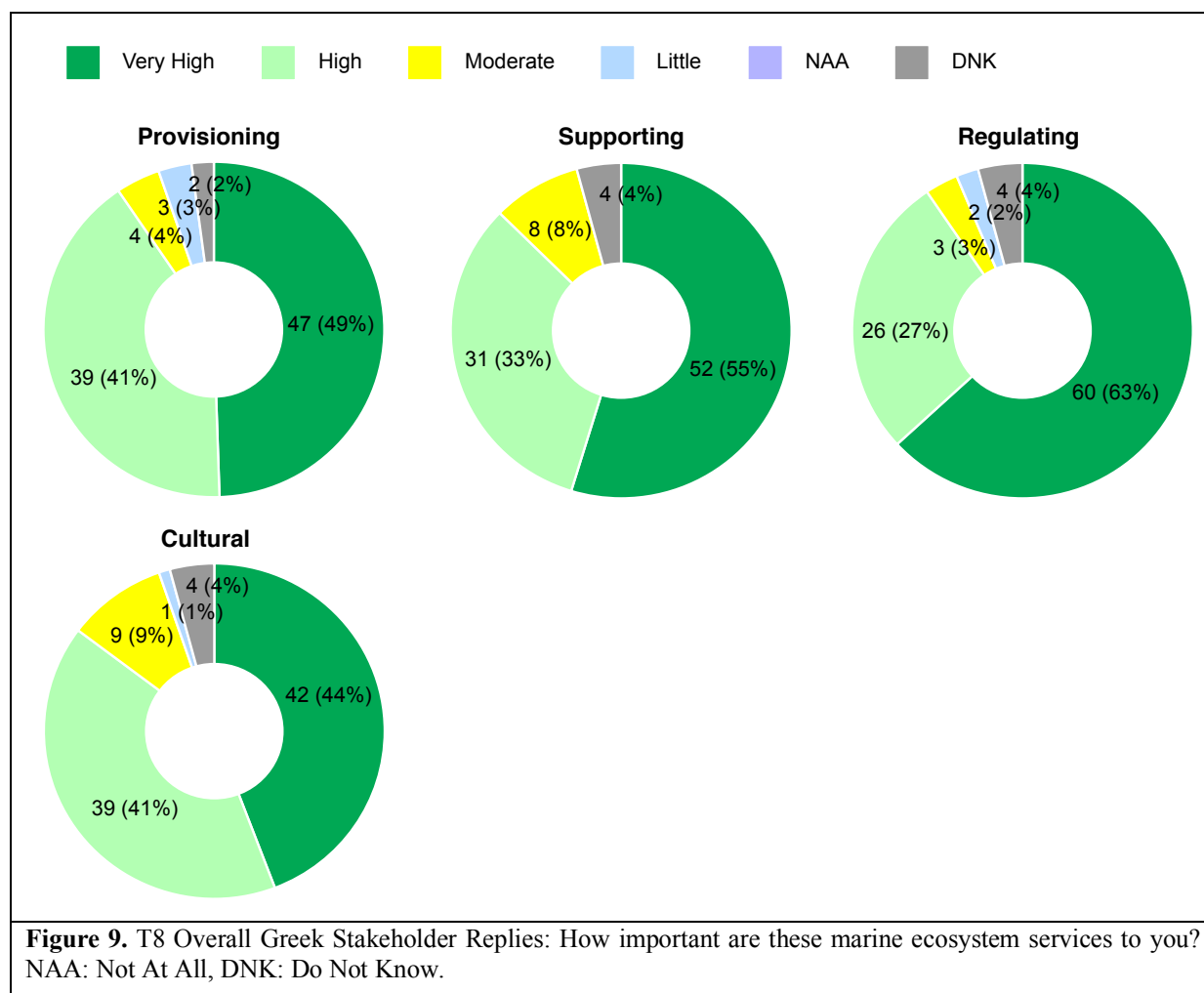
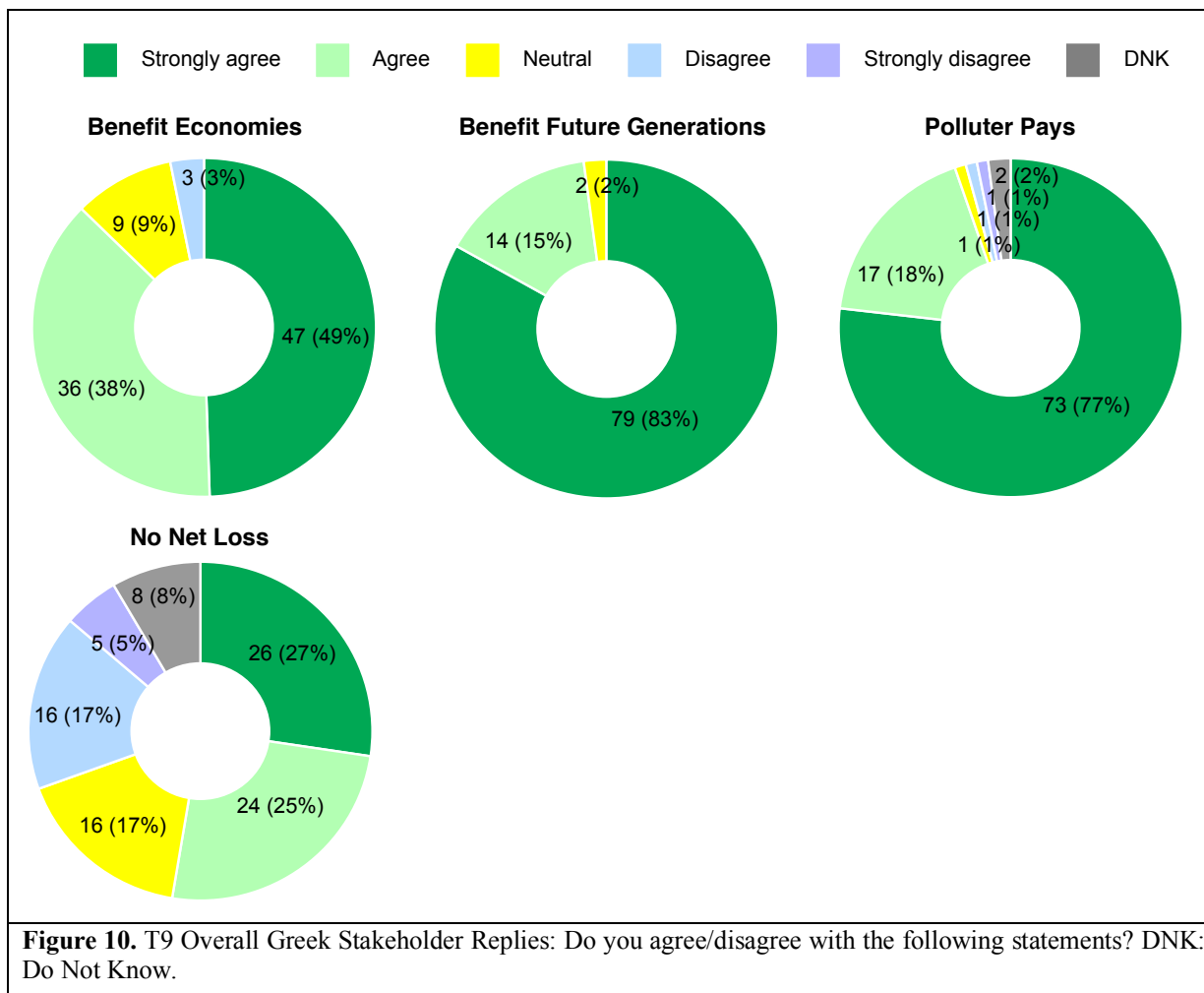
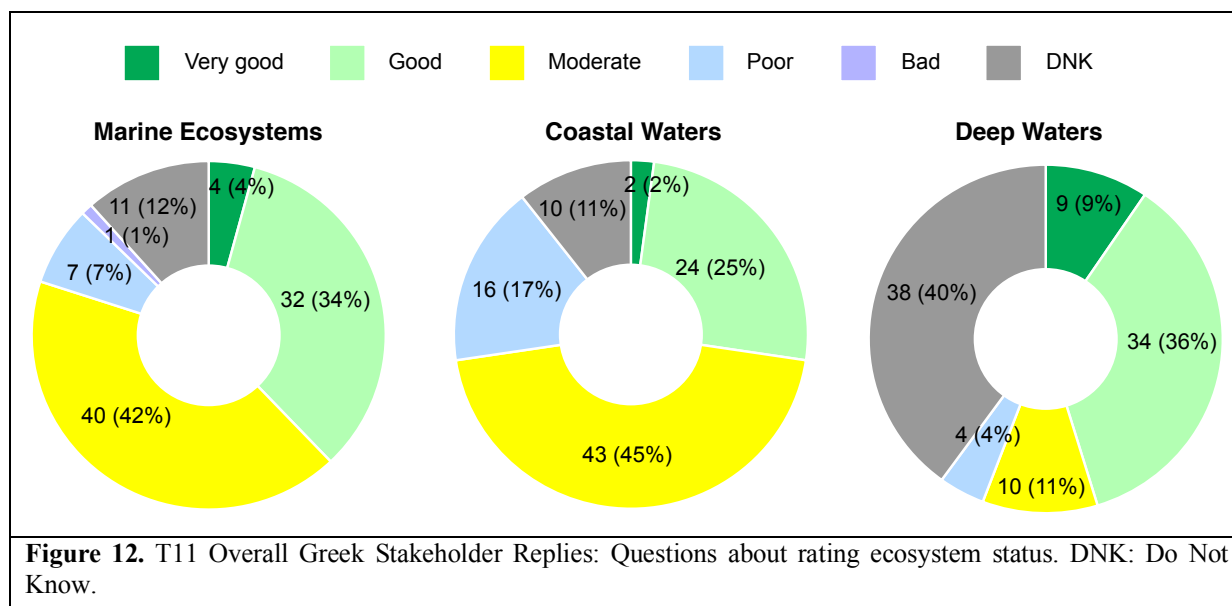
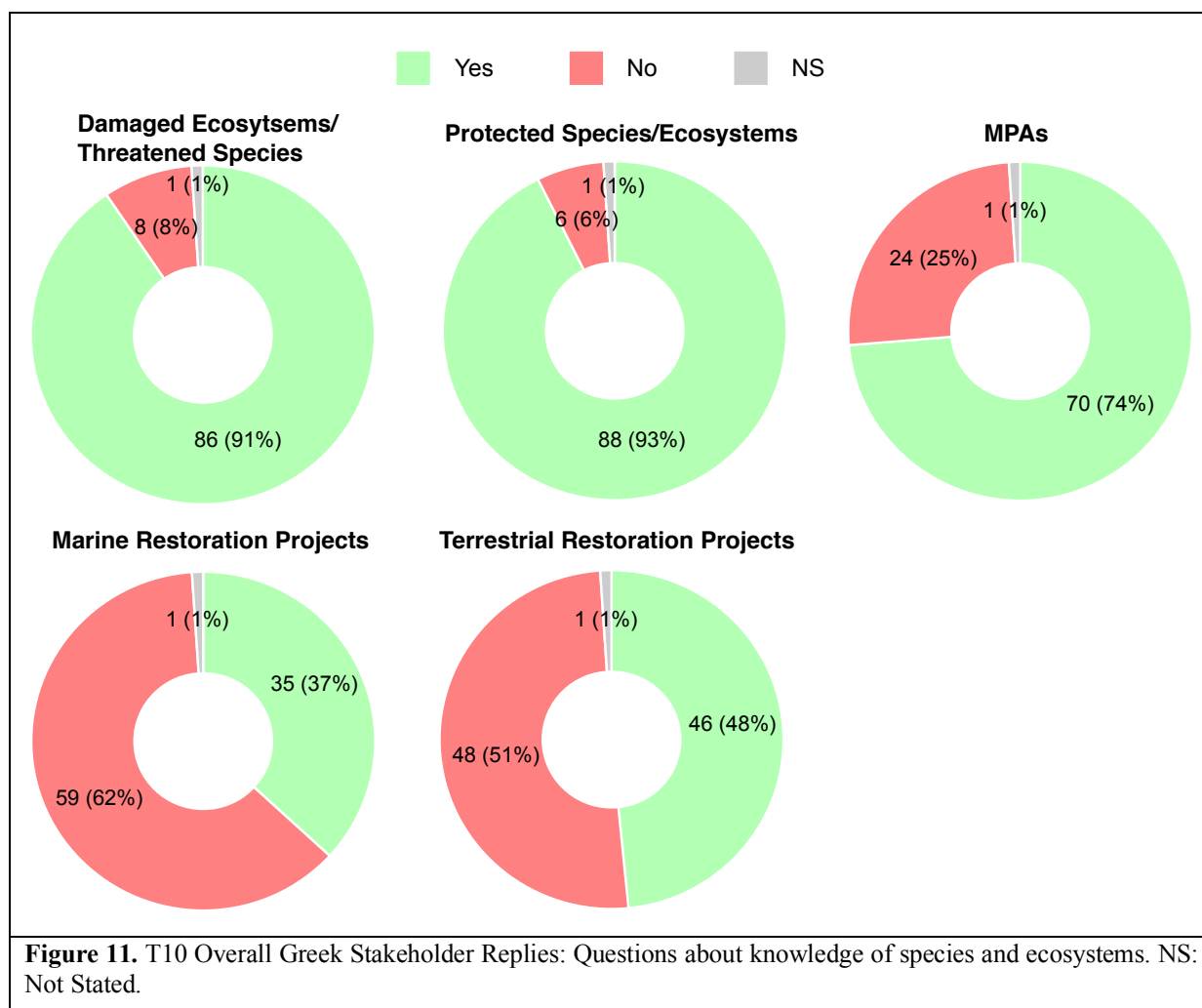


Figure 8. T7 Overall Greek Stakeholder Replies: Have you heard before/are you familiar with the term Ecosystem Services?







■ Strongly agree
 ■ Agree
 ■ Neutral
 ■ Disagree
 ■ Strongly disagree
 ■ DNK
 ■ NS

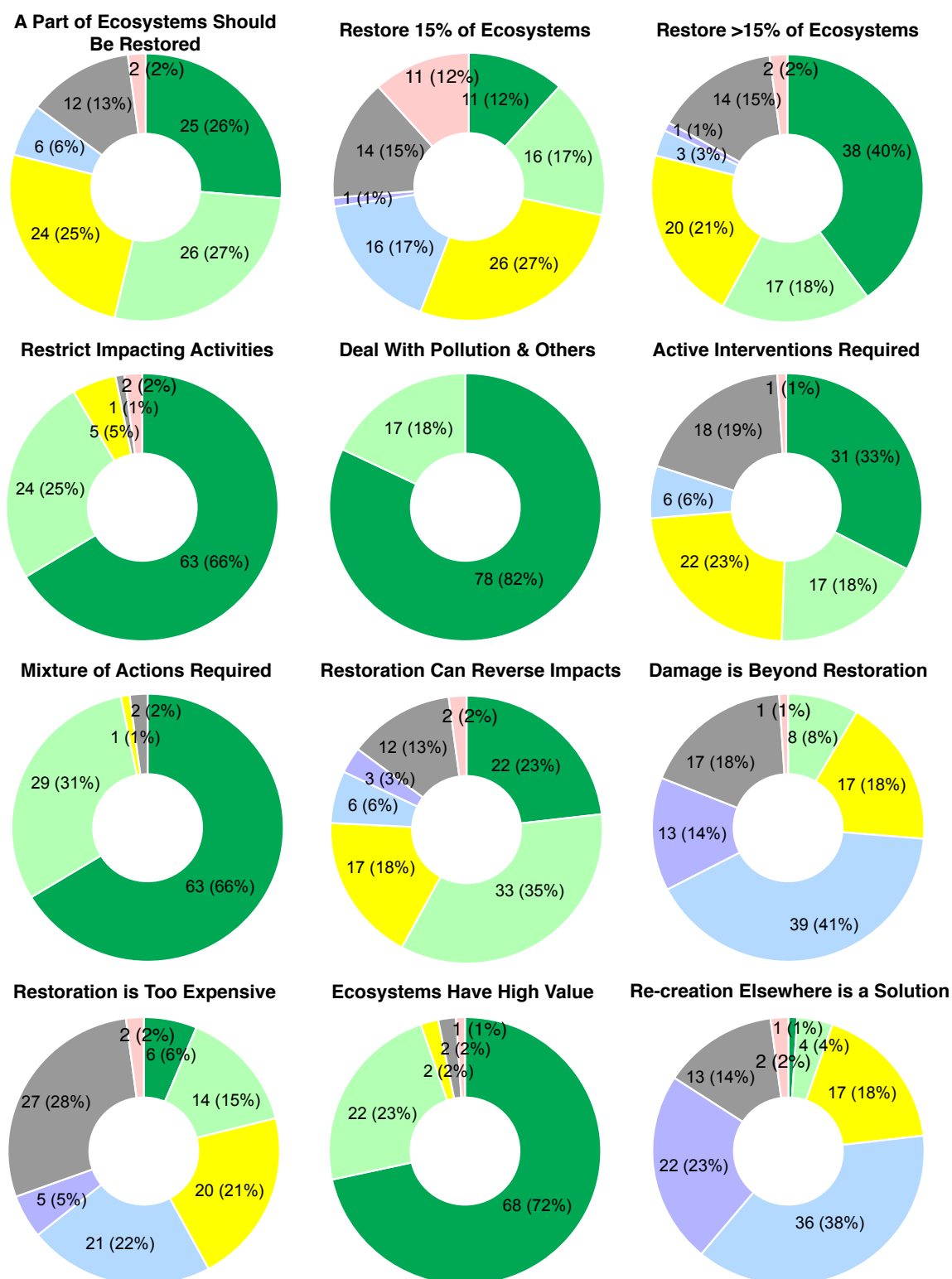
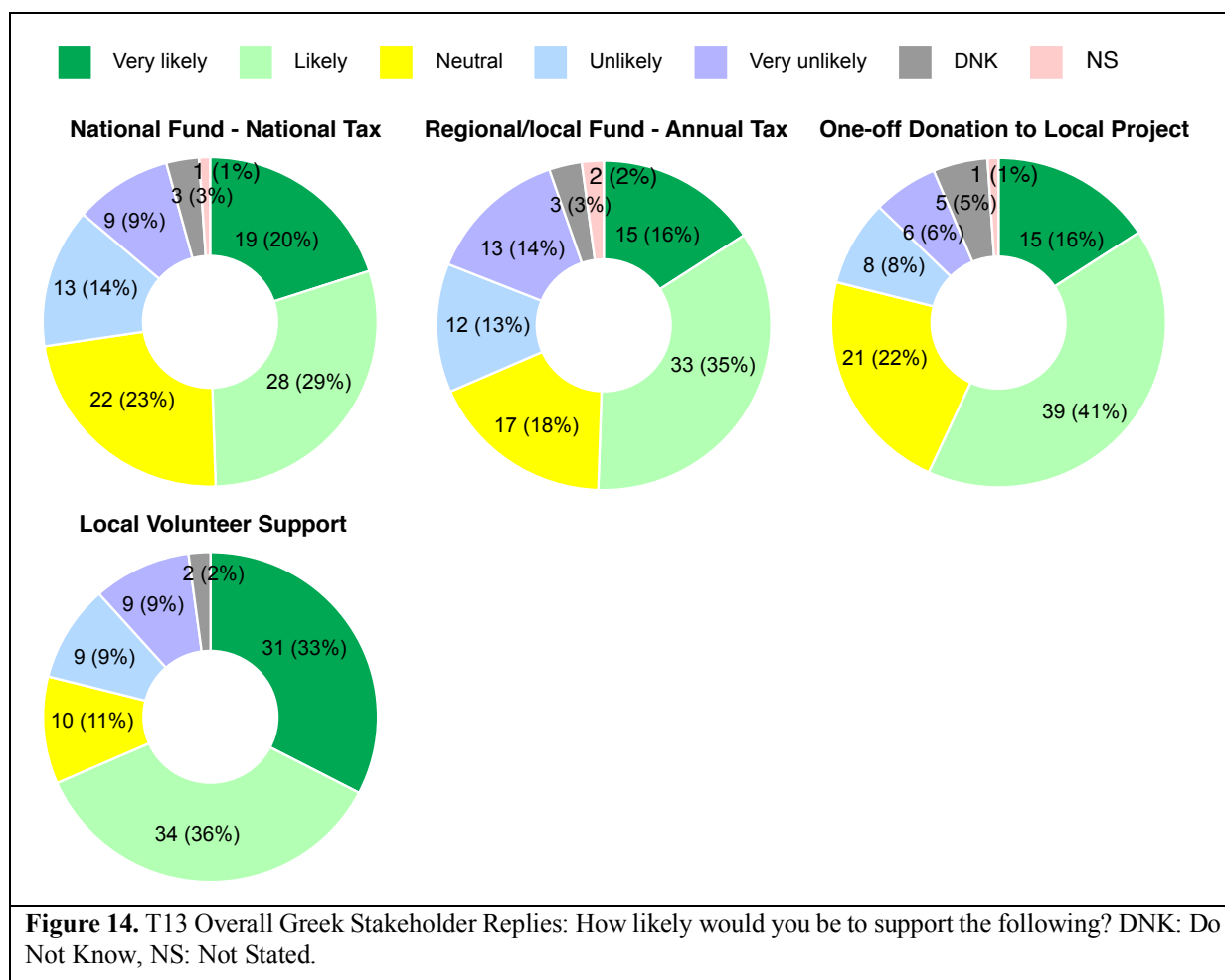


Figure 13. T12 Overall Greek Stakeholder Replies: Questions about options for marine restoration. DNK: Do Not Know, NS: Not Stated.



4.2. Results Europe

The overall results of the European stakeholders are shown in Figures 15-28 with individual stakeholder group replies shown in Annexe 3, corresponding Figures 1-13.

4.2.1 Stakeholders demographics-basic stats

There was a total of 179 replies to the online (and distributed questionnaires) from 23 European countries (Table 2). In a few cases (around 4%) the country was left blank/unstated and in one case a European perspective was noted instead. Italy and Portugal were the most represented (with 19 and 14% of the total) followed by the UK (8%) and Cyprus, Estonia, France, Greece, Slovenia and Spain (with 5-6% each). The stakeholders were grouped into different categories and are shown in Figure 15. The largest group was the researchers (57%, from Universities, research centres and consultancy firms), followed by government (16%, from central, national and local government levels) and NGOs (15%). Smaller groups included the recreational users (7%), professional users (3%) and others (2%).

There was an almost equally split between male (52%) with female (48%) stakeholders taking part in the survey (Figure 15). The age of stakeholders was predominantly in the 26-45 (60%) and 46-65 (31%) age categories. The majority (73%) of the NGO stakeholders were in the 26-45 age class; this age class was the dominant age class for all the stakeholder groups with the exception of the professional users where there was an equal representation of the 2 age classes. The largest part of the stakeholders (52%) had University qualifications (represented by all stakeholder types) followed by a large part (44%) who had PhDs (reflected partly by the high number of researchers employed in academia or government, however all the stakeholder groups except professional users had representatives with PhDs). Only a small percentage of stakeholders had only primary education (high school) qualifications (3%). Males and females were equally or almost equally represented in professional users, government and research, however the majority of the NGOs (62%) were females, and 67-69% of recreational users and others were males.

Table 2. Countries represented and number of responses by country.

Country	Number	Country	Number	Country	Number
Albania	1	Greece	10	Slovenia	10
Belgium	2	Ireland	3	Spain	11
Croatia	8	Italy	34	Sweden	1
Cyprus	9	Malta	1	Turkey	2
Denmark	2	Montenegro	1	United Kingdom	14
Estonia	10	Netherlands	3	European Perspective	1
Finland	1	Norway	6	Unstated	7
France	10	Portugal	25		
Germany	6	Romania	1	Grand Total	179

4.2.2 Theme 1 Activity Threats, Q1-7

Around 75% of the responders agree that fishing and coastal development activities represent a very high/high threat to the marine environment. For the rest of the activities the stakeholder views are split between considering them as a high/very high threat and a moderate threat (36-40% agreement). There is considerable agreement between the views of the stakeholders in research and NGOs on the matter of coastal development and between government, professional users and NGOs in the matter of fishing. Around 46% of stakeholders agree that tourism is a very important/important threat and stakeholders in research and government show similar levels of agreement with this statement. Around 42% of the responders agree that oil-gas is a very important/important threat but between 26-27% of them agree that aquaculture and oil-gas represent a small or no threat at all. However, only 5-6% of the stakeholders agree that fishing, coastal development and marine transport represent a small or no threat at all. The majority of professional users consider fishing a very high threat activity for the environment.

4.2.3 Theme 2 Blue Growth, Q8

The majority (82%) of the stakeholders were familiar with the term ‘blue growth’. However the majority of professional users and higher numbers of recreational users were not familiar with the term.

4.2.4 Theme 3 Blue Growth Sectors, Q9-13

The majority of the stakeholders agree that coastal/marine tourism (87%), maritime transport (80%) and fishing (75%) represent an economic activity of very high/high importance for their country. This is in agreement with official data, showing coastal/marine tourism as the most important in terms of jobs, followed by fishing and maritime transport but alternating depending on region and country (http://ec.europa.eu/assets/mare/infographics/#_Baltic_Sea). There were no differences between stakeholder groups with the exception of professional users, the majority of which (50%) considered fishing as a moderate importance activity. Stakeholders were of mixed views regarding aquaculture and oil-and gas. For example, 39% of the stakeholder agree that oil-gas represents an activity of little/no importance but 32% of very high/high importance. There were some differences in the degree of agreement between stakeholder types, for example 54% of recreational users agree that oil-gas activity is a very high/high threat activity but only 17% of recreational users agree with this statement.

4.2.5 Theme 4 Pressure Threats, Q14-18

The vast majority of stakeholders (78-79%) agree that marine litter and plastics along with habitat destruction and overfishing represent very high/high threats to the environment, followed by chemicals/organics/pollution (70%), and alien/invasive species (68% agreement). Between 2-5% of the stakeholders agree with the statement that marine litter and plastics, habitat destruction and overfishing represent a small/no threat to the environment. Less stakeholders in the government see very high/high threats (e.g. 67% of government vs 92% of NGO in the case of overfishing) while agreeing with moderate and little/no impacts more often (e.g. 10% of government vs 1% of researchers and 0% by all other stakeholders in the case of litter and plastics).

4.2.6 Theme 5 Ecosystem Protection, Q19-21

Almost all of the stakeholders (99%) strongly agree/agree that a part of marine ecosystems should be protected (e.g. with MPAs, NATURAs, etc.).

The majority (58%) of the stakeholders agree with the statement “we should protect 10% of marine ecosystems” with the rest (especially stakeholders in the government) having more mixed responses (for example 17 and 28% respectively being neutral or disagreeing with this).

The vast majority of stakeholders (85%) however strongly agree/agree that we should protect more than 10% of marine ecosystems, with least agreement (50%) by the professional users.

4.2.7 Theme 6 Natural Capital, Q22

The majority (82%) of the stakeholders were familiar with the term ‘natural capital’ however higher numbers of recreational users were not familiar with the term.

4.2.8 Theme 7 Ecosystem Services, Q23

The vast majority (92%) of the stakeholders were familiar with the term ‘ecosystem services’ higher numbers of recreational and professional users and others were not familiar with the term.

4.2.9 Theme 8 Individual Ecosystem Services, Q24-27

The vast majority of stakeholders (92-94%) agree that supporting and regulating ecosystem services are of very high importance followed by provisioning and cultural services (87 and 86% agreement respectively). There are few differences between stakeholders in the degree of agreement with each statement. For example, 23% of recreational users see moderate importance in the provisioning service as opposed to professional users who believe in a higher importance; similarly 24% of stakeholders in government see moderate importance in the cultural services as opposed to researchers who believe in a higher importance for this service.

4.2.10 Theme 9 Needs to Restore, Q28-31

The vast majority of stakeholders (83%) strongly agree (49%) or agree (34%) that we need to restore marine ecosystems to the benefit of our economies. A part (around 15%) of professional users and stakeholders in government take a neutral position.

Almost all the stakeholders (97%) strongly agree (85%) or agree (13%) that we have the responsibility to restore marine ecosystems for the benefit of future generations. A very small part (3-8%) of stakeholders in government and recreational users take a neutral position.

The vast majority (97%) of the stakeholders strongly agree (80%) or agree (17%) with the “Polluter pays” principle, i.e. if we damage, we need to pay for restorative actions (e.g. oil spills). Less stakeholders (around 67%) in government, others and recreational users strongly agree with this statement while all of the professional users strongly agree with this.

There were more mixed responses, in the statement “No net loss of biodiversity/ecosystem services: damages and losses resulting from human activities in one area must be balanced by a gain elsewhere

provided that we remain at the no net loss point”. While overall 63% of the stakeholders were positive to the idea, the remaining stakeholders strongly disagreed/disagreed (13%) or were neutral (21%) to this statement. There was more agreement with this statement from the stakeholders category others and from the professional users.

4.2.11 Theme 10 Species and Ecosystems, Q32-36

Overall the vast majority of stakeholders (86-93%) were aware of “damaged ecosystems/threatened species/ecosystems” and “protected species/ecosystems” and MPAs in their countries. However a considerable part of recreational users (31-39%) did not know of any damaged or protected ecosystems/species respectively and around half of recreational and professional users did not know any MPAs in their country. There were many examples of species, ecosystems and areas under protection or in need of further protection (e.g. *Pinna*, *Posidonia*, corraligenous, cold water corals, maerl beds).

Around 40% of the stakeholders did not know of any marine restoration projects in their country but among the remaining more knowledgeable ones some provided examples (these included, for example, European oyster beds restoration in the North Sea, restoration of seaweed fields outside of Gothenburg, Steart Marsh restoration, one of the UK's largest new wetland reserves, various brackish lagoon and lake restoration projects, MERCES and LIFE projects applying restoration on various species/cases).

Around one third (33%) of the stakeholders did not know of any terrestrial restoration project in their country but a few provided examples (such as reforestation and rehabilitation of former mining sites, restoration of new woodlands in the New Forest, otter re-introductions, restoration of burned forests). Professional users had less knowledge on both marine and terrestrial restoration projects.

4.2.12 Theme 11 Ecosystem Status, Q37-39

Around 54% and 30% of the stakeholders thought that the overall ecosystem status of the marine ecosystems in their country was respectively moderate and good. More stakeholders in government agreed with a good overall status. None of the stakeholders agreed with an overall very good status and with the exception of a part of the professional users (17%) almost none of the stakeholders agreed with a very good status for the coastal waters of their country.

Around 53% and 23% of the stakeholders thought that the ecosystem status of the coastal marine ecosystems in their country was respectively moderate or good. More stakeholders under the categories other and government agreed with a good overall status.

Around 28% of the stakeholders thought that the ecosystem status of the deep marine ecosystems in their country was good, 26% thought it was moderate but 26% did not know. The least stakeholders (around

20%) with the 'I don't know' response were in the government and NGO stakeholder categories. A small proportion of stakeholders (8%) thought that the status of the deep waters is very good but there were different views between groups (e.g. zero agreement by NGOs vs. 24% by government).

4.2.13 Theme 12 Options for Restoration, Q40-51

The vast majority of stakeholders (81%) strongly agree/agree that a part of marine ecosystems should be restored (e.g. by transplanting corals/seagrass/kelp). Less strong agreement and more neutral positions were supported by stakeholders in government and professional users for this statement and the following one.

There were more mixed responses to the statement "we should restore 15% of marine ecosystems" with 40% of stakeholders strongly agreeing/agreeing, but 29% and 13% respectively being neutral or did not know. There were considerable differences in views between stakeholder groups; for example much higher numbers of recreational users agreed with this statement (and the next one) than stakeholders from the government or research.

The majority of stakeholders (64%) strongly agree/agree with the statement "we should do more than 15%" with again some remaining neutral or did not know (20 and 12% respectively).

Almost all stakeholders (95%) strongly agree/agree that we should restrict impacting activities and we should deal with pollution and other problems.

Around 64% of the stakeholders strongly agree/agree that active interventions are required (e.g. planting corals) however around 25% were neutral to the idea (with higher numbers from government and professional users choosing a neutral position).

The vast majority of the stakeholders (94%) strongly agree/agree that a mixture of actions is required.

Around 68% of the stakeholders strongly agree/agree that marine restoration can reverse negative human impacts although around 24% were neutral to the idea or did not know.

Around 57% of the stakeholders strongly disagree/disagree that marine habitats are too damaged to be restored and 22% of stakeholders were neutral to the idea. Higher numbers of professional users and stakeholders in research agree with this statement (15-17% vs. for example 7-8% in NGOs and government).

There were more mixed responses to the statement 'marine restoration is too expensive'. Although 42% of the stakeholders disagree/strongly disagree with the statement, 23% were neutral, 13% do not know and

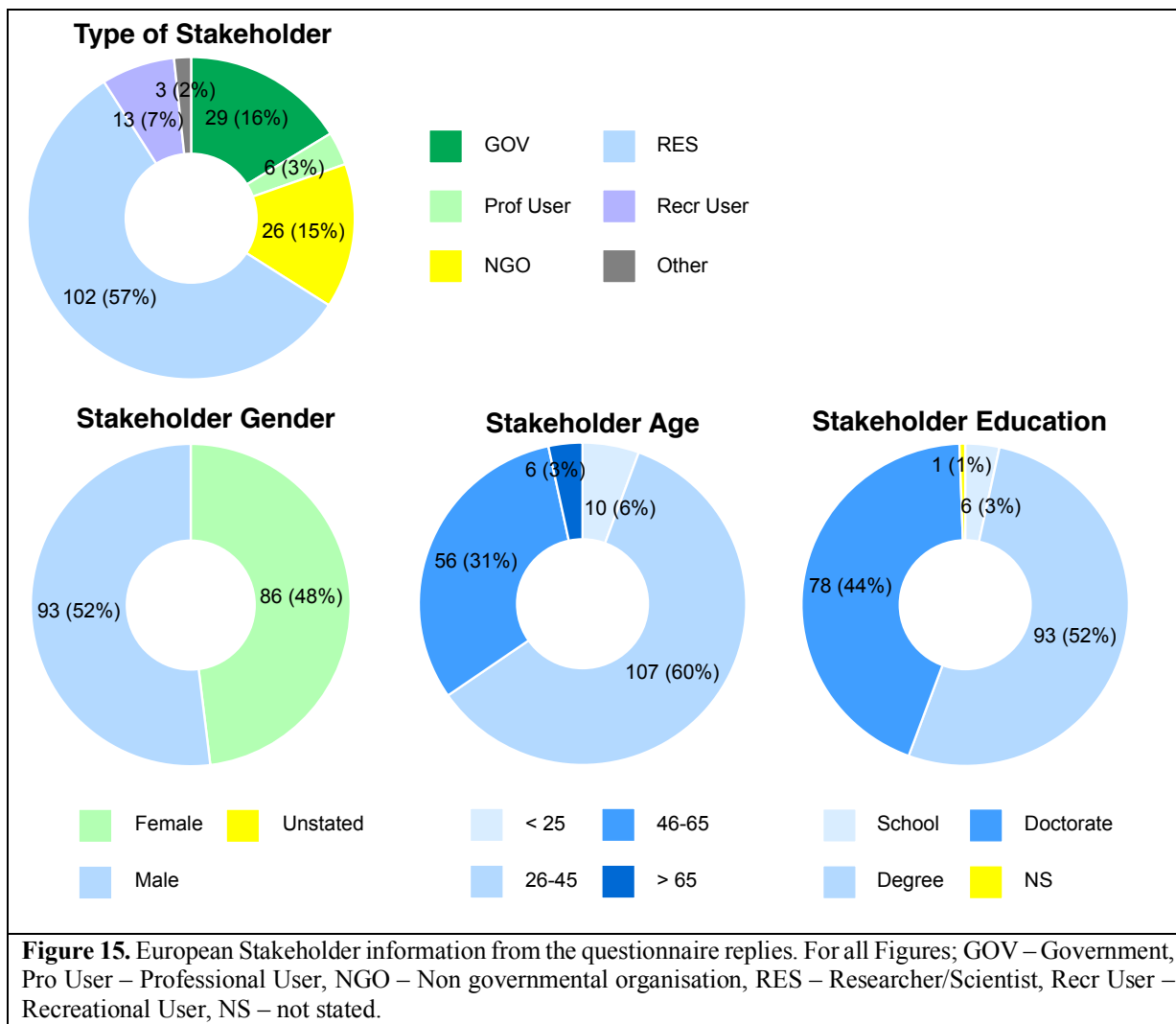
15% agree with the statement. Higher numbers of stakeholders in the government category agreed with this.

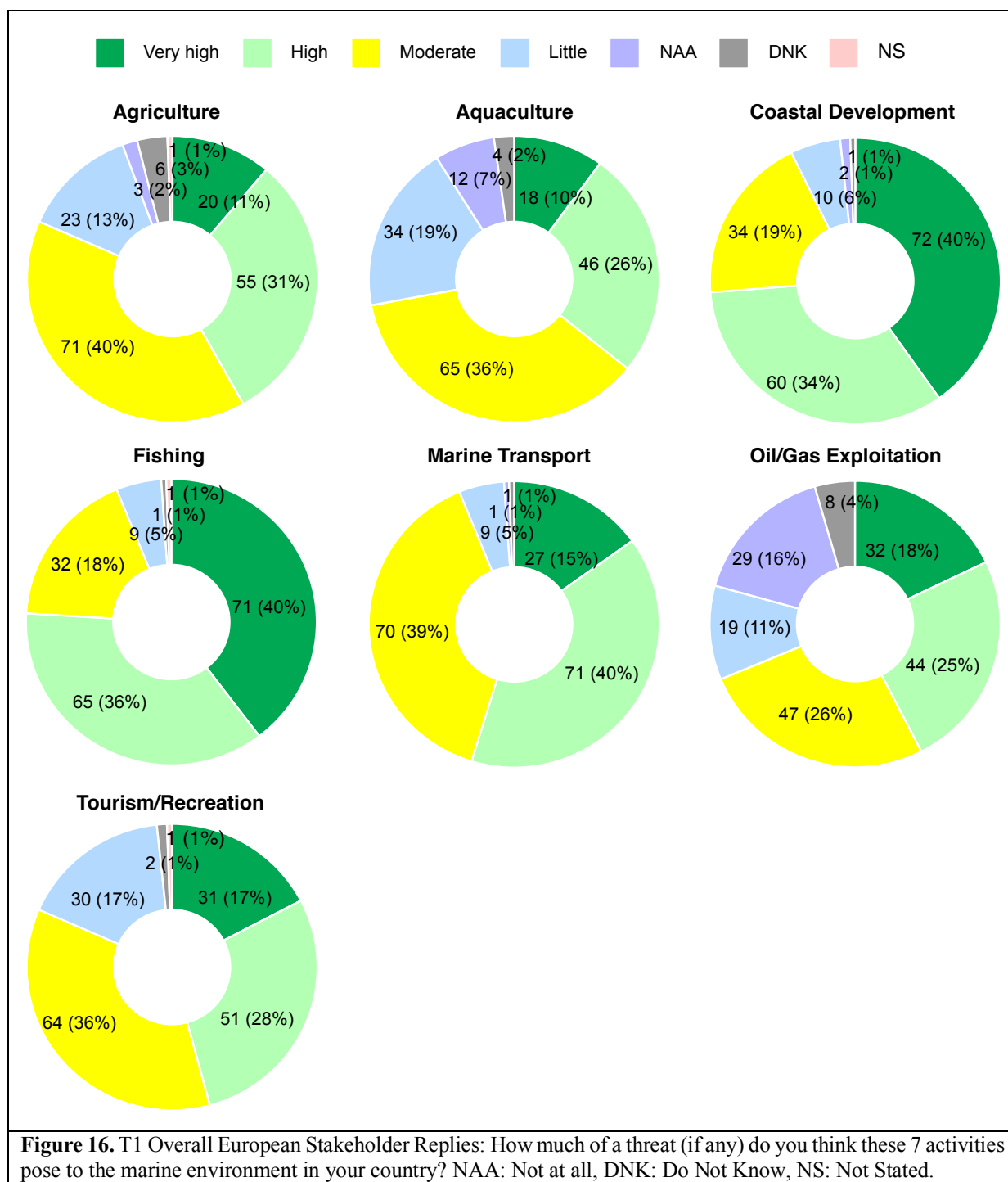
Almost all stakeholders (95%) strongly agree/agree that marine ecosystems have high value although a proportion (around 15%) of professional and recreational users take a neutral position.

The majority of stakeholders (64%) strongly disagree/disagree with the statement “it does not matter if we restore a system in its original location or if we re-create a similar system elsewhere” but 18% of the stakeholders were neutral to the statement. Higher number of stakeholders in the government disagreed with this statement (72% vs. 50% for NGOs and professional users) while a higher number of NGO stakeholders were neutral (35% vs. 10% in the government).

4.2.14 Theme 13 Supporting Restoration, Q52-55

There is an increasing agreement with the statements, ranging from a minimum of 57% of the stakeholders that would likely/very likely support a national restoration fund by paying an annual tax, to 61% for a regional/local restoration fund by paying an annual fee to local authorities and to 69% for a targeted local restoration project, e.g. for transplanting seagrass/kelp/corals in a specific area, by one-off donation or by participating in a crowd-funding campaign. More stakeholders (79%) would however likely/very likely volunteer to support a local restoration project, e.g. by diving, fishing, providing a fishing or other vessel, contributing with marine aquarium duty, etc. In comparison with those in NGOs or research, less stakeholders in the government category would support the first two options however the last two options received higher and similar support from these stakeholders.





Q2: Heard of Blue Growth

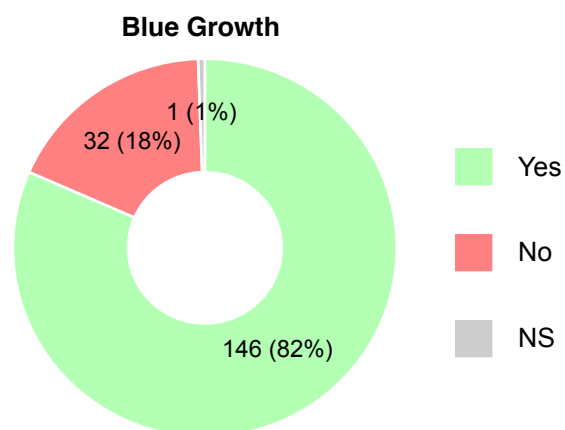


Figure 17. T2 Overall European Stakeholder Replies: Have you heard before/are you familiar with the term Blue Growth? NS: Not Stated.

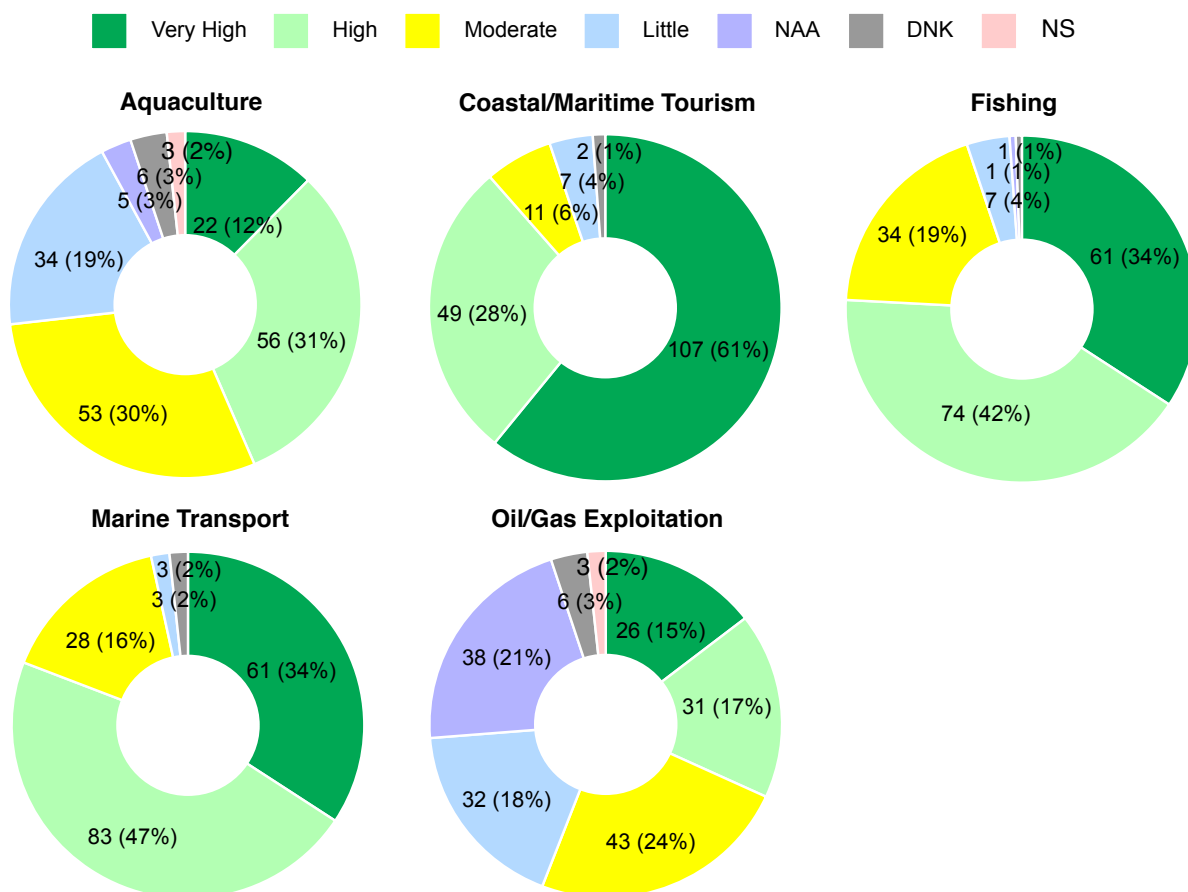
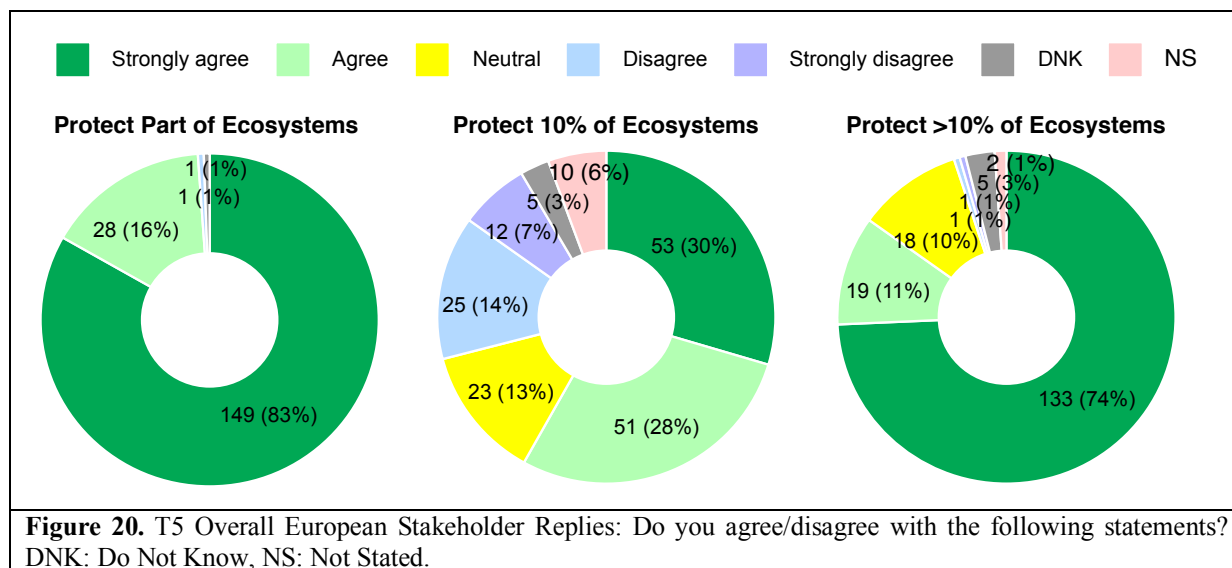
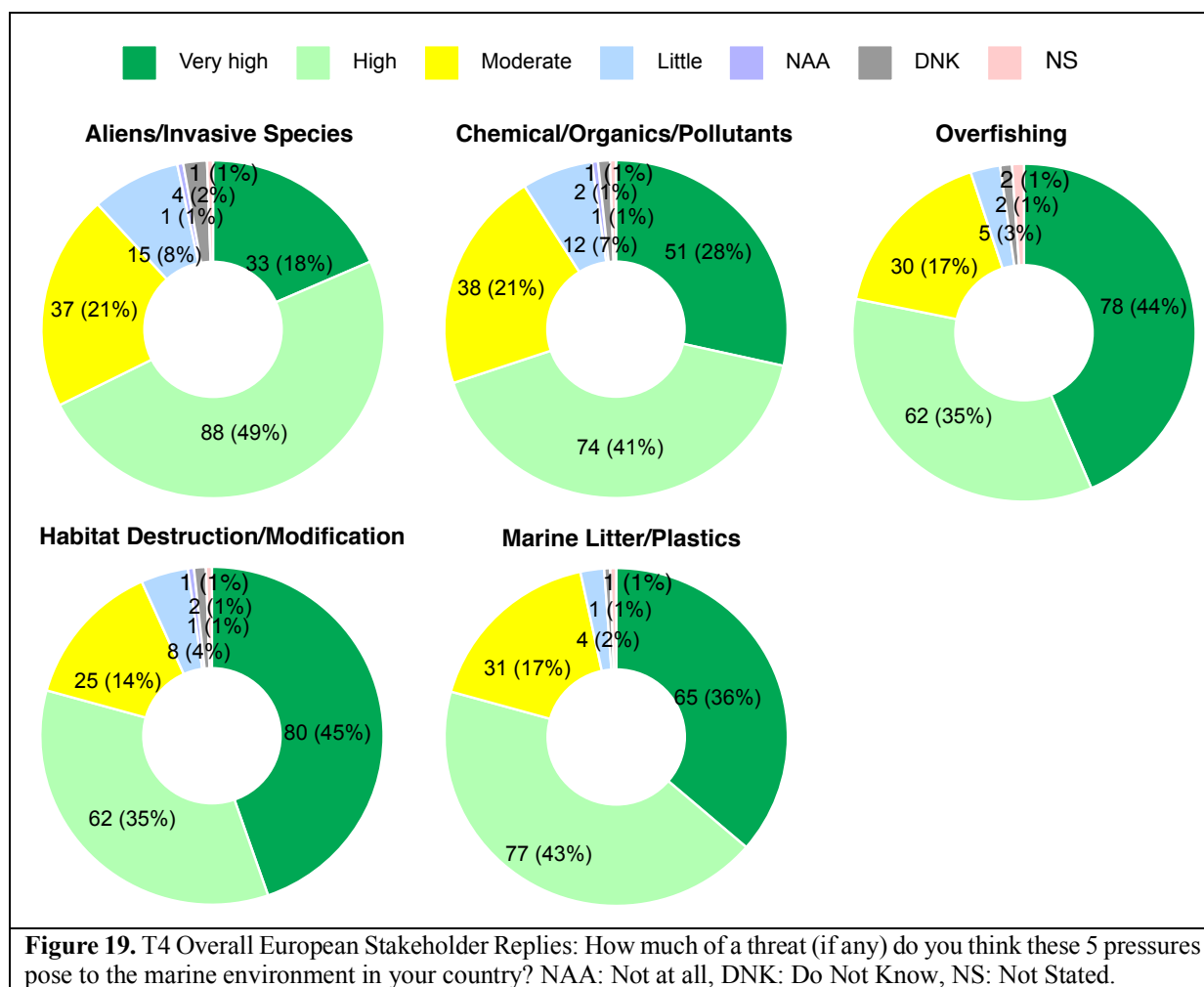


Figure 18. T3 Overall European Stakeholder Replies: In your view, how important are these 5 blue economy sectors in your country? NAA: Not at all, DNK: Do Not Know, NS: Not Stated.



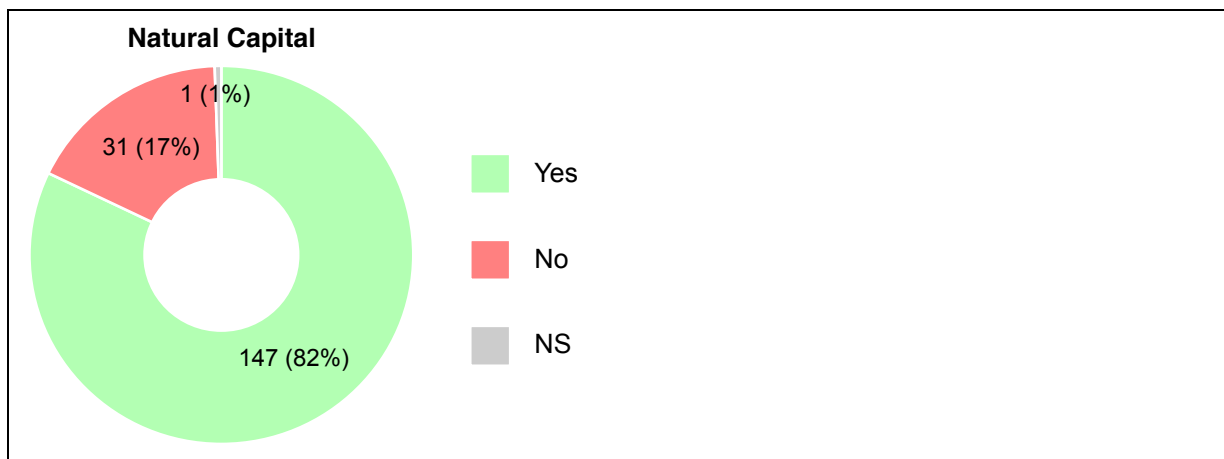


Figure 21. T6 Overall European Stakeholder Replies: Have you heard before/are you familiar with the term Natural Capital? NS: Not Stated.

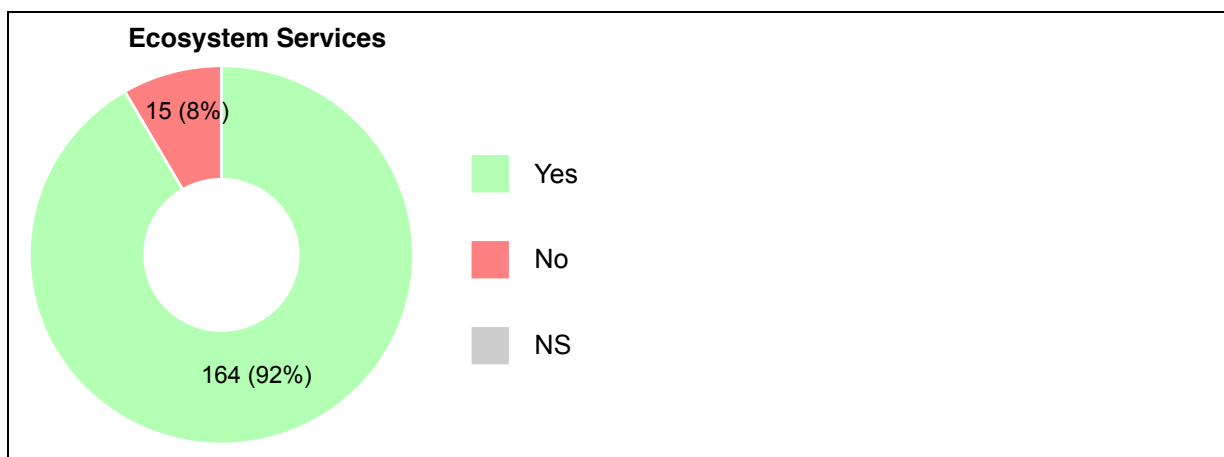
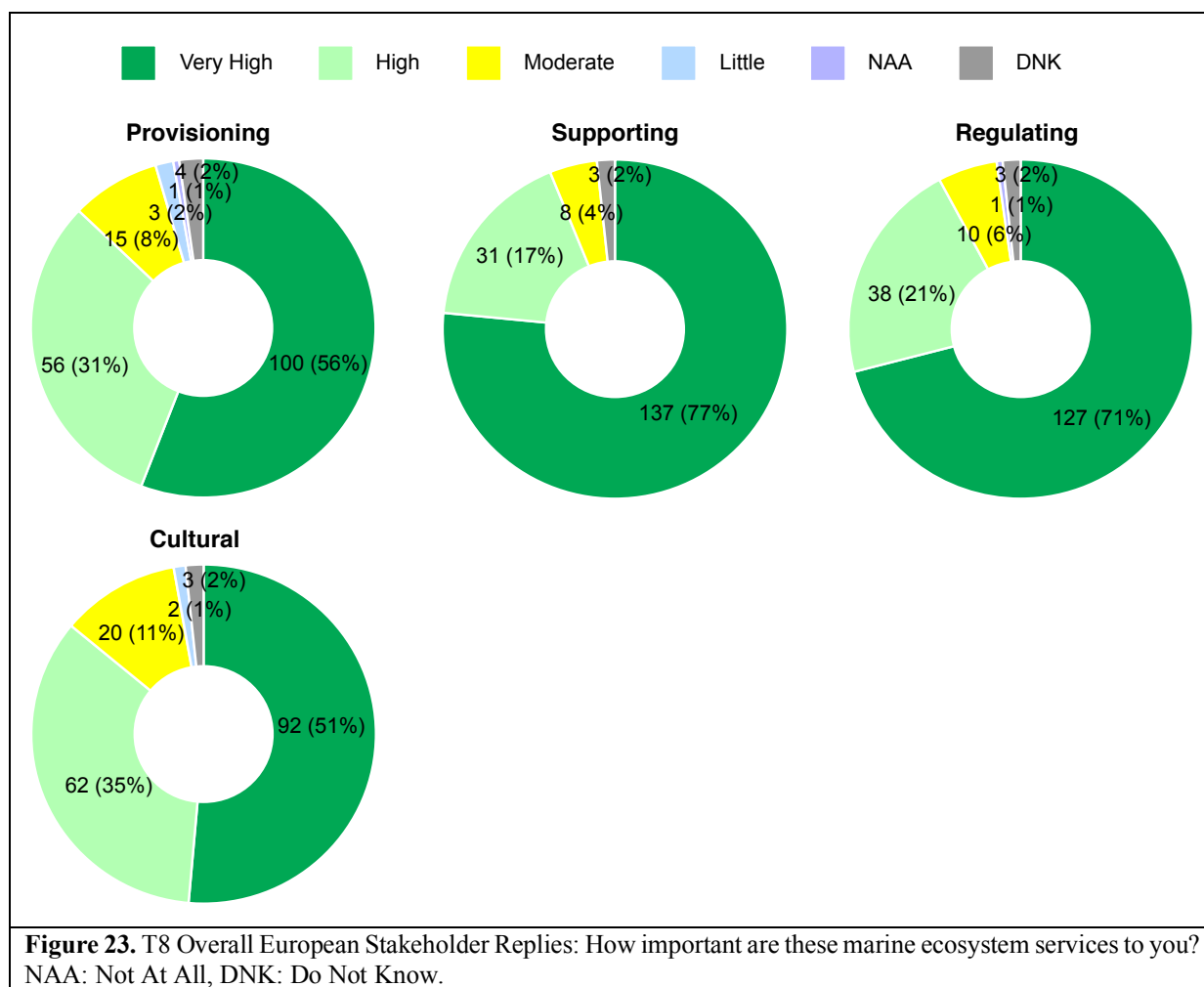
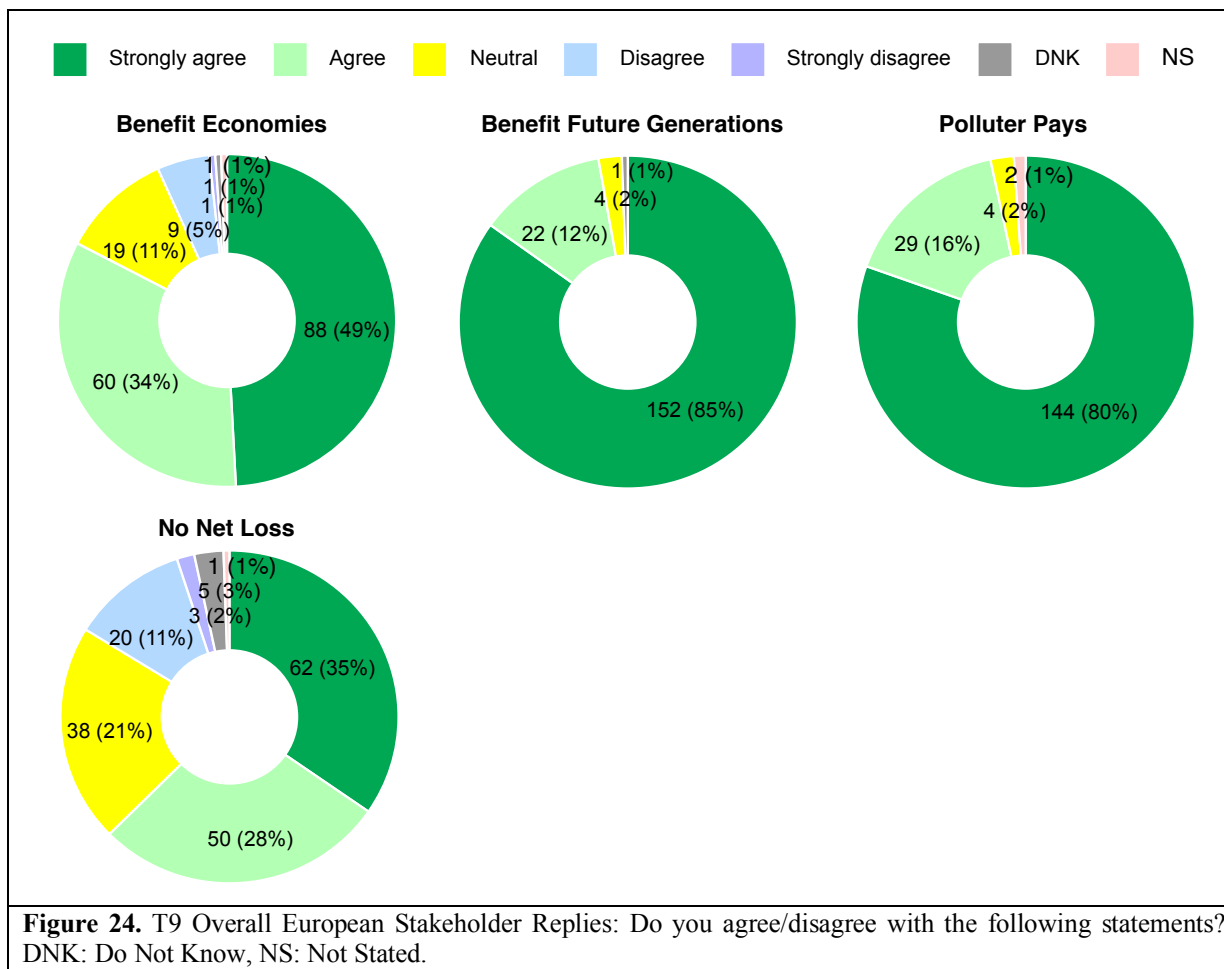
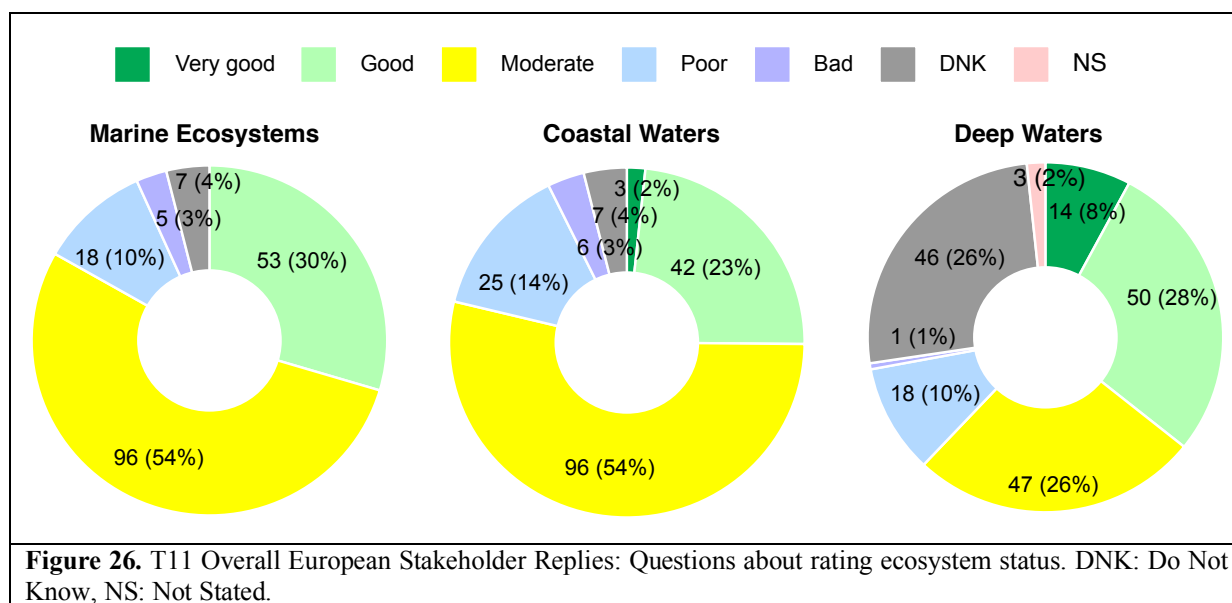
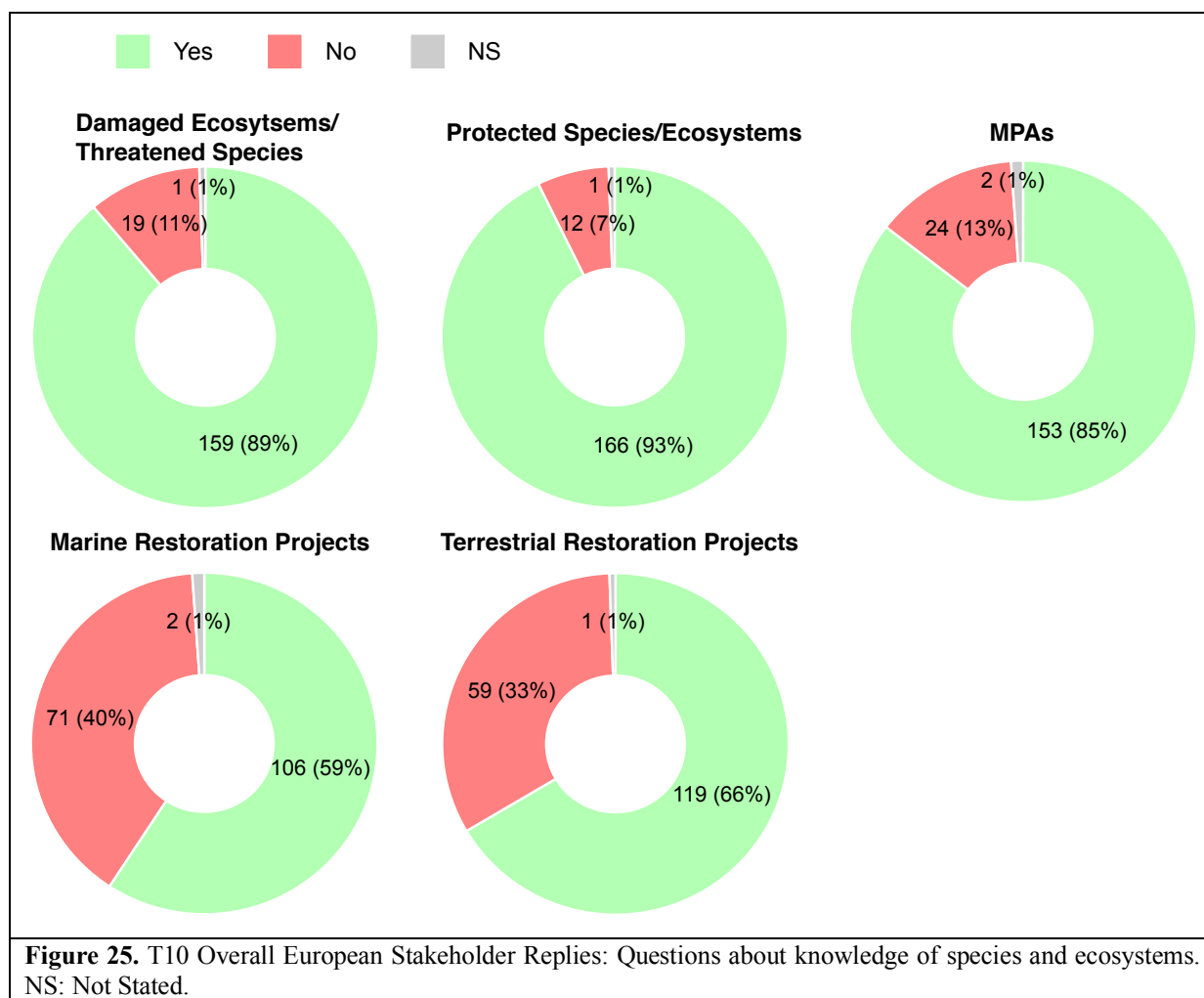
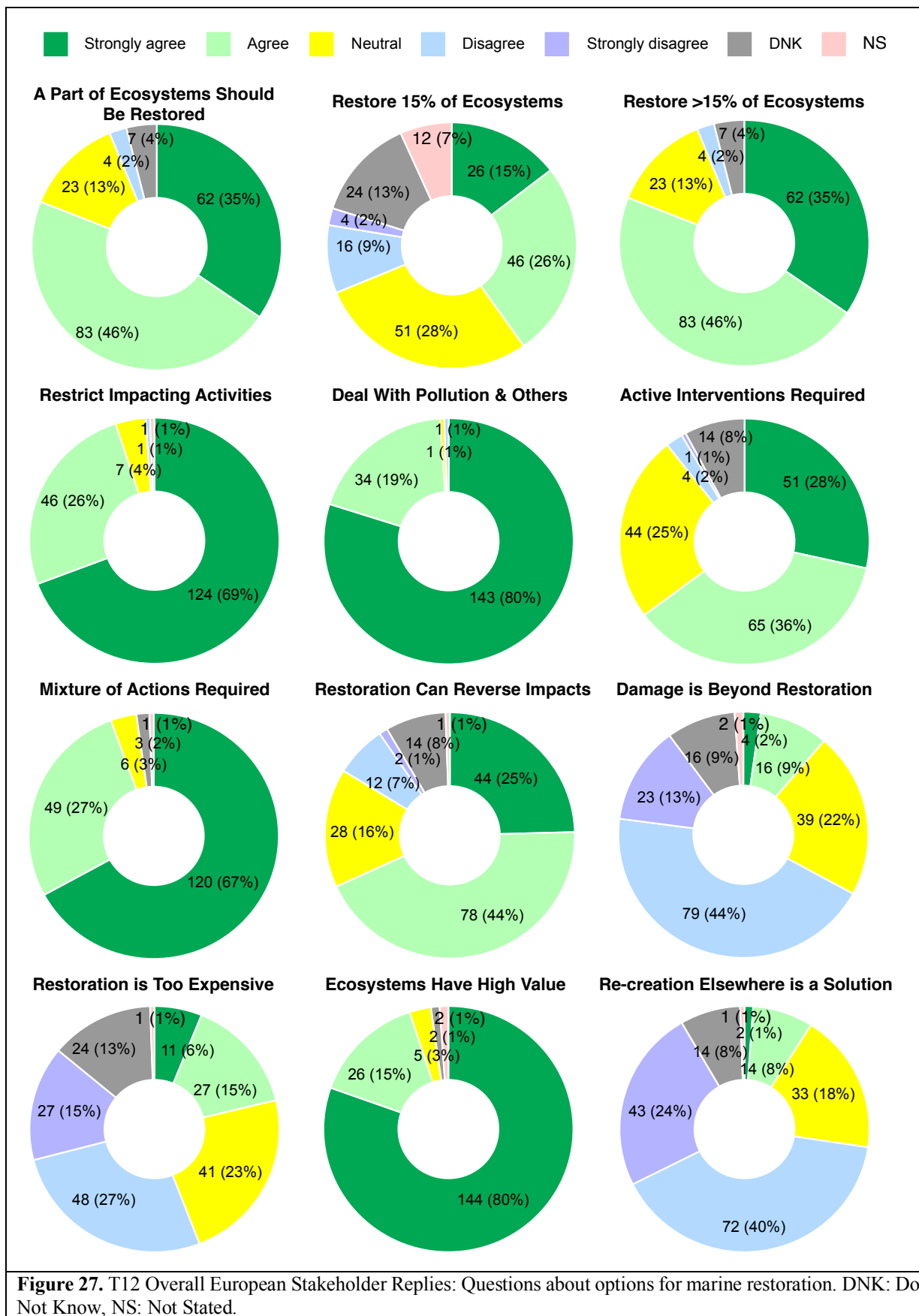


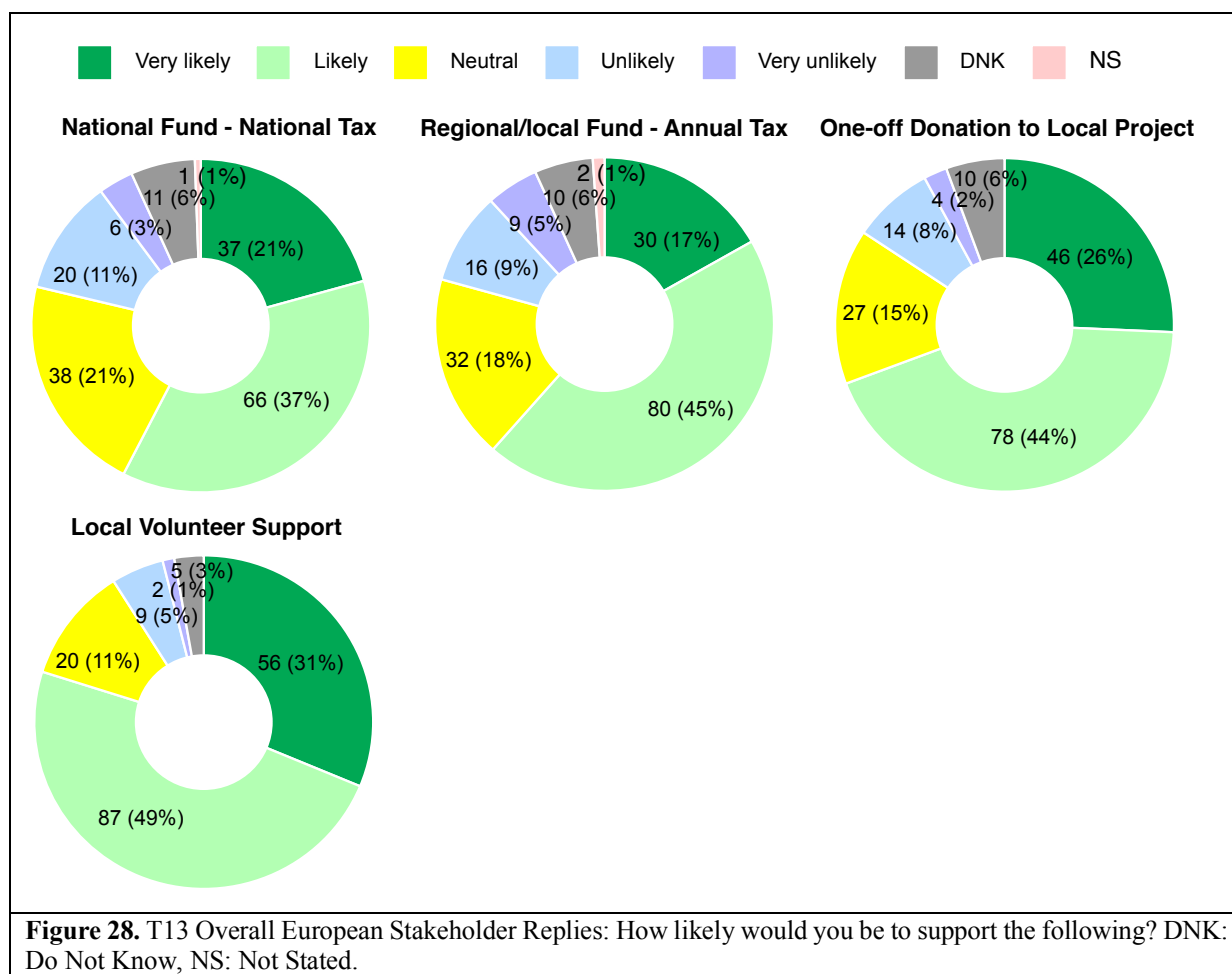
Figure 22. T7 Overall European Stakeholder Replies: Have you heard before/are you familiar with the term Ecosystem Services? NS: Not Stated.











4.3. Commonalities and differences between the surveys

4.3.1 Demographics and knowledge themes

The largest stakeholder group in both surveys was the researchers, however this groups represents the majority of the European stakeholders (57%) while the numbers are more balanced in the Greek survey (32% research vs. 26 % government and NGO each). Participation from recreational and professional users is low for both surveys (e.g. for the recreational users 13% in Greece, 7% in the Europe). The European survey has a better gender balance (vs 63% males in the Greek survey) and this applies to both surveys for the government stakeholders. However there were more males in research in Greece and more female in NGOs in the European survey. The European survey has a higher proportion of younger age stakeholders especially so in the NGO category. The majority of the stakeholders in both surveys had University education (around 51-52%) or PhDs (38-44%). Only recreational and professional users and others had only a high school education. These stakeholders, and especially so the recreational users appear to be less knowledgeable (for example on terms such as blue growth and ecosystem services) or aware of specific cases, for example of damaged ecosystems, protected species and MPAs in their countries or of specific marine and terrestrial restoration projects. The stakeholders in the European survey appear to be more knowledgeable on terrestrial and marine restoration projects while the stakeholders in Greece appear to be

more positive/optimistic about the status of the marine environment in Greece (showing high levels of agreement to a good status). A proportion of stakeholders in both surveys (8-9%) believe the status of the deep sea is very good, although a considerable part admits to not knowing (and even more so in the Greek survey). Only one sixth of the stakeholders believe that the coastal waters in their countries is of bad/poor status, with even less stakeholders agreeing to a bad/poor status for the deep or the overall waters.

4.3.2 Activities and Pressures

The vast majority of the stakeholders in both surveys agree that fishing and coastal development represent a very high or high threat activity however in Greece oil-gas is also in the high threat category, presumably due to the very recent and highly publicized oil tanker accident that caused an environmental disaster in the form of an extensive oil spill covering the shores of southern Athens and Salamina in Saronikos gulf and which plunged the government into crisis in 2018 (<http://www.ekathimerini.com/221715/article/ekathimerini/news/agia-zoni-oil-spill-was-an-accident-waiting-to-happen-experts-say>). The vast majority of the stakeholders in both surveys agree that coastal marine tourism and maritime transport represent activities of very high/high importance for their countries. They also agree that marine litter and plastics along with overfishing pose very high/high threats to the marine environment.

4.3.3 Conservation, 10% target, T5, Q19-21

The vast majority of stakeholders (91-99%) in both surveys agree that a part of the marine ecosystems should be protected and, with the exception of the professional users (showing lower levels of agreement), most stakeholders (85%) also strongly agree that we should protect more than 10% of marine ecosystems.

4.3.4 Restoration principles, T9, Q28-31

Almost all of the stakeholders in both surveys (with no differences between groups) strongly agree/agree that we should restore marine ecosystems for the benefit of future generations (with a very large proportion also agreeing for doing it for the benefit of our economies). The vast majority of stakeholders (95-97%) in both surveys agree with the ‘polluter pays’ principle with somewhat lower levels of strong agreement by the stakeholders in research and NGOs in the Greek and the European survey respectively. There is less agreement with the ‘no net loss’ principle (and less so in the Greek survey) with a considerable part of stakeholders, in both surveys, disagreeing or taking a neutral position (including from the NGOs).

4.3.5 Restoration targets, approaches and beliefs, T12, Q40-51

The majority of stakeholders in both surveys agree that a part, of marine ecosystems should be restored (with professional users showing lower levels of agreement), however the European stakeholders showed in general, higher levels of agreement with both the generic statement (81% vs. 54% in the Greek survey)

and the higher target of restoring more than 15% (81% vs. 58% in the Greek survey). Almost all of the stakeholders in both surveys agree that we should restrict impacting activities, deal with pollution and employ a mixture of actions, with much less agreement with the need for active interventions (and more so by the Greek stakeholders).

There is remarkable similarity in the opinions of the stakeholders of both surveys with regards to the ability of restoration to reverse impacts and their disbeliefs/disagreements about marine ecosystems being too damaged and beyond restoration. They also appear to have fairly similar levels of knowledge about the cost of restoration. Almost all the stakeholders strongly agree/agree that ecosystems have high value and this is also seen in their responses ranking all ecosystem services as almost equally very important. Finally, there is remarkable similarity between the stakeholders of the 2 surveys in their disagreement (61-64%) with the statement that restoration elsewhere is a solution. A proportion of them (18%) take a neutral position to the question of restoring a system in its original location or recreating a similar one elsewhere.

4.3.6 Willingness to support restoration, T13, Q52-55

There is remarkable similarity and positive responses in both surveys with more positive responses in the European survey (e.g. 58% vs 49% in Greece for a national fund supported by an annual tax). There are increased levels of support from a national restoration fund, to a regional and a local targeted restoration project and towards volunteering for a local restoration project. More and less stakeholders in government would support national/regional restoration funds by the taxes in Greece and Europe respectively. A targeted local restoration project, e.g. for transplanting seagrass/kelp/corals in a specific area financed by one-off donations or by participating in a crowd-funding campaign is perceived positively by the majority of stakeholders, with more researchers and NGOs taking a neutral position in Greece. There are substantially increased levels of support towards a local restoration programme or volunteering for one by the recreational users of both surveys.

5. Discussion

A number of human economic activities and a suite of associated pressures arising from inappropriate management of activities and wastes (including litter and plastics) are perceived as important threats to the marine environment with few differences between stakeholders or countries. Marine litter, at the top of the list, perceived by almost all stakeholders as a very high threat, is a widely recognized multifaceted issue (degrading marine waters and harming marine life, Anastasopoulou *et al.* 2013, Pham *et al.* 2014, Vlachogianni *et al.* 2017). This is being addressed by many European research projects and policies, among the latest ones being the MSFD and the European Strategy for Plastics in a Circular Economy (EC 2018). Overfishing, pollution, species invasions and the harmful potential of various aspects of several anthropogenic activities, including coastal development, are also widely recognized and well documented for many marine ecosystems and European seas (Airoldi & Beck 2007, Boudouresque *et al.* 2017, Galil *et al.* 2015, Colloca *et al.* 2017, Froese *et al.* 2018). Expected increases in some activities, including those perceived as very important to the European Blue economy such as maritime tourism can also pose pressures and additional challenges (EEA 2014, Piante & Oddy 2015). Achieving the EU's Blue Growth strategy goal of sustainable growth while operating within the ecological limits of our seas along with concerns on some of these issues are being shared with other stakeholders (Boyces *et al.* 2016, Buckley *et al.* 2017, Piante & Oddy 2015).

Despite this realization, awareness and concerns over marine problems and threats, the majority of the stakeholders perceive the status of the marine waters in their countries as moderate or good. Only a relatively small proportion of stakeholders agree with statements describing the status of marine waters in their countries as poor or bad. In general this is in agreement with published scientific status assessments for several countries (Borja *et al.* 2011, Uusitalo *et al.* 2016); for example in Greece the most recent assessments of the marine waters of the country under the WFD and MSFD paint a picture with very few poor or bad cases and an overall moderate or good status for most areas and water bodies (Simboura *et al.* 2015 & 2016).

Even so, strong in their beliefs that ecosystems have high value and offer very important services (above and beyond the provisioning ones), the vast majority of stakeholders of both surveys agree that we should make every effort to protect at least a part of our marine ecosystems from further degradation. This positive attitude towards conservation is connected and in agreement with their awareness and knowledge on damaged ecosystems, and threatened and protected species and ecosystems (as demonstrated by numbers and the many examples given). It is expected that stakeholders in science, NGOs and government will have some knowledge on these issues as a number of European and international/regional policies cover these issues. Among these the Habitats Directive, an older and mature EU directive, is directly aiming at achieving Favourable conservation status for a number of habitats and species. However, knowledge and

information on these species and the Natura 2000 network of terrestrial and marine protected areas is regularly shared with the wider public, reaching and/or involving professional and recreational stakeholder and users. There are many EU and regional/national led projects, initiatives and info-days on the subject (for example a Region of Crete two-day conference on Natura 2000 Conservation and Sustainable development taking place in Chania in mid-May 2018 is highly publicized in local media). There is increased collective knowledge and social learning about these issues (Steyaert *et al.* 2007) and a simple Google search on ‘NATURA 2000 news’ corroborates this, with returns of over 730,000 Greek language items (and over 37,000 items on the Region of Crete event). The EU’s WFD, aimed at improving the ecological status of shallow coastal water bodies and inland waters, is also contributing to increased knowledge gains for stakeholders in research and the environmental consciousness of government managers and politicians (e.g. dealing with river restoration projects, Gonzalez del Tango *et al.* 2012) towards a change in current dominant thinking of favouring hard engineering solutions despite the growing evidence of the benefits of ecosystem-based or nature-based solutions (Papadopoulou *et al.* 2017). There is a great need for engineers who sponsor and plan projects and develop and execute policy, to receive training in ecological principles and their application in ecological restoration projects, although it may take decades to have ecologically savvy engineers, natural resource professionals, and policy makers in top-level administrative positions (Aronson *et al.* 2016).

Beyond conservation and in addition to restricting impacting activities and dealing with pollution and other problems, restoring a part (even more than 15%) of degraded marine ecosystems to the benefit of future generations and our economies is supported by a large majority of the stakeholders. The stakeholders in the European survey seem to be more positive towards restoration (including towards the higher target) compared with the Greek stakeholders (81% vs. 54%), however the European stakeholders also seem more knowledgeable on the subject (62% vs. 40%). Still, compared to the terrestrial environment, a larger proportion of stakeholders of both surveys did not know any marine restoration project taking place in their country. Beyond the fact that marine restoration is not yet mainstreamed by popular science and science news, it is still a relatively young discipline with restoration efforts focussing unevenly in several regions in the Northern Atlantic, Northern and Central Pacific and Tropical Atlantic and in estuarine/wetlands and certain coastal and shallow habitats (e.g. saltmarshes, seagrasses, tropical coral reefs, mangroves) (Bayraktatov *et al.* 2016, Papadopoulou *et al.* 2017). Some of the examples noted by the stakeholders did include efforts on these shallow coastal ecosystems (e.g. salt marshes, oyster reefs, wetlands and sand dunes). Large projects (e.g. Steart marsh UK), emblematic invasions (e.g. lionfish in the Mediterranean) and large environmental disasters and associated knowledge and information, are not only attracting media attention, but are also framing concerns, beliefs and perceptions of what is desirable and achievable (Carballo-Cárdenas 2015, Maguire *et al.* 2012, Jönsson 2011, Walker *et al.* 2014, da Silva *et al.* 2014, Potts *et al.* 2016). Media coverage of highly publicized oil-spill disasters such as those by the 2010 Deepwater Horizon accident in the Gulf of Mexico (White *et al.* 2012, Demopoulos *et al.* 2016) and, a much smaller

scale but very recent national example of an ‘environmental crime’, the Agia Zoni II tanker sinking in Saronikos gulf (<https://www.theguardian.com/world/2017/sep/14/greek-oil-spill-forces-closure-athens-beaches>, <http://www.iefimerida.gr/news/362326/perivallontiko-egklima-ston-saroniko-pissa-oi-paralies-mehri-ti-glyfada-eikones>) influence the opinion and stakeholders perceptions not only as to what constitutes a very important threat (i.e. oil-gas being ranked very high in the Greek survey and higher than the European survey) but also as to what needs to be done, who is responsible and is going to have to pay for it (Safford *et al.* 2012).

Despite some differences in the degree of agreement between stakeholder groups (e.g. lower agreement by researchers in the Greek survey and the government stakeholders in the European survey), overall the vast majority of the stakeholders in both surveys strongly agree with the ‘polluter pays’ principle, which dictates that if we cause damage, we need to pay for restorative actions (e.g. oil spills). Although a recent marine application of the ‘polluter pays’ principle is seen in the Deepwater Horizon oil spill case where the party responsible for the injury is charged for the environmental impact assessment, the immediate response actions and the restoration efforts (Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016) the question about how can the ‘polluter pays’ principle be used to facilitate restoration is among the 100 questions that, if answered, would make a substantial difference to terrestrial and marine landscape restoration in Europe (Ockendon *et al.* 2018).

By comparison, there was less support (53-63%) and more mixed responses to the “No net loss of biodiversity/ecosystem services” principle that was framed in the surveys to mean that “‘damages and losses resulting from human activities in one area must be balanced by a gain elsewhere provided that we remain at the no net loss point’”. In agreement to this, the majority of stakeholders (61-64%), with some differences between groups, disagree with the statement ‘it does not matter if we restore a system in its original location or if we re-create a similar system elsewhere’. Higher numbers of government stakeholders disagreed with this statement in the European survey as opposed to the Greek stakeholders, where a considerable proportion were neutral to this statement. A considerable part of the NGO stakeholders was also neutral to this statement in both surveys (and more so in the European survey). There are few comments that offer some insights in the reasoning behind these choices and these include a few lines of thought. First, we should protect first: “we should not damage and have need of remedial actions”, “passive restoration is the answer”, “it could be much more costly than just simply restoring a habitat in its original location or even better to prevent its destruction in the first place so that no restoring would be needed”. This is in agreement with the findings of Jones *et al.* 2018 based on a meta-analysis of 400 studies worldwide that document recovery from large-scale disturbances, such as oil spills, agriculture and logging, who conclude that passive recovery should be considered as a first option. Second, “I am in favour of restoration but in many cases the answer is, it depends on the circumstances”, “it depends, the issue is too complex for generic answers”, “in some places habitats may be too damaged to be restored”. Thirdly, similar to the point above,

expressing doubts about the possibility of recreating a system elsewhere: “we can never recreate a system elsewhere”, “some coral populations are found specifically in some areas and not others due to the particularity of the ambient physical parameters, it is not so simple for some species to thrive in just any area and re-creating fragile natural systems will require a lot of planning and trial and error”. The disbelief and doubts voiced here are scientifically founded and restoration attempts failing are not uncommon for many reasons, including among others inadequate site selection and unsuitable environmental conditions (Bayraktarov *et al.* 2016, Papadopoulou *et al.* 2017, Suykerbuyk *et al.* 2016). Finally, the last resort approach: “I would say it does matter and we should primarily try to restore a system in its original location. However, if no other option, then re-creating a similar system elsewhere could be an alternative, even though it might not always be possible”. This could be perceived as the approach where at this point “any gain is better than a loss”. Concerns voiced here over the ‘No Net Loss’ principle essentially mirror those expressed in the ‘No Net Loss of Biodiversity’ public consultation held by the European Commission in 2014 (EC 2014). There, stakeholders strongly agreed that “the correct application of the mitigation hierarchy ‘avoidance -> reduction -> restoration -> compensation/offsetting” is essential if No Net Loss of biodiversity and ecosystem services is to be achieved while support for offsetting was conditional on strict measures and robust safeguards being in place to disallow further losses, “abuses” and a “licence to trash”. There are currently few marine-specific biodiversity offsetting policies in Europe but a range of approaches promoting uptake of biodiversity offsetting principles in a marine context do exist including at the EU level with applications for impacts to designated sites under the Habitats Directive (Niner *et al.* 2017).

The majority of stakeholders, in both surveys, support both the protection of the marine environment (for example through reduction of damaging activities/impacts) and the restoration of degraded habitats. Not surprisingly, their willingness to pay for conservation or support a restoration project depends on a number of factors (such as confidence in government agencies, political leanings, ‘green’ lifestyle choices, income - Petrolia *et al.* 2014, Blignaut *et al.* 2016) including the payment vehicle (e.g. Stithou & Scarpa 2012, Lew 2015) and the governance setting of each option, i.e. whether it is an annual national tax or a landing fee, a voluntary payment in the form of a donation or buy-in to a crowd-funding scheme, whether the tax revenues feed into a green environmental fund or whether it is a local project. In connection to the governance setting, the country setting is also important in times of crisis as it is evident from some of the remaining comments concerning lack of trust (e.g. ‘there is little trust in the local administration to handle these issues and funds’), transparency issues and doubts about misuse (e.g. ‘Greece already has a green fund, but they seem to fund irrelevant projects’) and in particular about taxes and use of tax revenues (e.g. my government only collects taxes with no real benefits/nothing to show for it, over taxation - enough with the taxes - we have taxes for everything now, the polluters should pay not the tax payers, I don't trust my government to use my taxes for the right cause). A European stakeholder provides a detailed example of the Aggregates Levy in the UK. “For every tonne of primary aggregate sold (from land or marine sources), a tax of £2/tonne has to be paid. However, where this regime fails, is that currently none of this income (which totals c. £350M

per annum) is reinvested to help improve the environmental performance or to offset the environmental consequences of the sector's activities. It simply becomes a revenue raising exercise for national government. If introduced, such measures need to be consistently applied to ensure a level playing field across industry sectors. The funds raised also need to ring-fenced to deliver benefits". Additional comments made by European stakeholders, mirror some of the common concerns about trust e.g. "just need a government to trust", "I have seen corruption and misuse of funds", "the government and industries should pay", "polluters should pay", "I would pay more taxes living in a country already heavily taxed (note: this case is not about Greece) if the government took responsibility for its actions and set up ambitious measures to better protect and restore marine ecosystems", "actual taxes could be allocated to national or regional funds with no need for extra taxes".

Paying into voluntary schemes (e.g. to support a targeted local restoration project for transplanting seagrass or kelp in a specific area, see Okubo and Onuma 2015) is supported by the majority of stakeholders with volunteering (by offering free labour and use of resources) being more strongly supported by a very large majority of stakeholders in both surveys. This is especially important and encouraging as citizen science volunteers can make significant contributions to implementing restoration actions in large scales; there are many documented cases around the world (see Tampa Bay Estuary program, TBEP, USA <http://www.tbep.org/index.html> and Volunteering for large-scale seagrass restoration – VIMS, USA <http://web.vims.edu/bio/sav/index.html>, Papadopoulou *et al.* 2017) and many experimental cases within MERCES (e.g. employing divers for *Pinna* translocation in Croatia and planting of corals and sponges in Italy, employing fishing communities to provide and subsequently deploy coral fragments in Spain and Portugal) highlighting the importance of involving volunteers. A minimum training of the volunteers is often needed to safeguard correct handling and successful restoration outcomes (Hesley *et al.* 2017) while a deep shift in social thinking and awareness, backed up with ethical ecological and economic commitments, will undoubtedly help up-scale restoration and reverse ecosystem degradation (Aronson *et al.* 2017).

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7. Annexes

ANNEX 1 Questionnaire

Social acceptance of marine restoration: Questionnaire for sta...

<https://docs.google.com/forms/d/1eqKldHQSIGZJ3NpaXSi...>

Social acceptance of marine restoration: Questionnaire for stakeholders

WHAT IS MERCES?

MERCES – Marine Ecosystem Restoration in Changing European Seas is a EU-funded Research and Innovation project dedicated to the development and promotion of marine restoration. Launched in June 2016, it will last until May 2020. Its consortium consists of 28 partners (universities, research centres, SMEs) from 16 countries representing all European seas.

PROTECTION/RESTORATION

Marine ecosystems are used by many marine activities which cause a number of different pressures. In recognition of this, various international and EU policies call for the protection of at least a part of marine ecosystems. For example, there is a call to protect 10% of the seas (as a whole or by paying special attention to certain ecosystems) by developing a network of Marine Protected Areas (MPAs). Most recently there is a call to restore 15% of damaged ecosystems to assist their recovery.

MERCES SURVEY

Aim: to record the views of a range of stakeholders on the acceptance of restoration, and their preferences on ways to support restoration.

Target groups: key national and local stakeholders linked to conservation and restoration/case studies (e.g. fisheries, aquaculture, tourism, coastguard, dive businesses, environmental NGOs, research and education, etc).

Questionnaire: it will only take you 15 minutes to fill it in with easy, quick agree/disagree type questions.

Anonymity: the questionnaire is anonymous, no names or emails are given and the answers provided cannot be linked to a participant - anonymity of the information is thus guaranteed at all stages of the process including reporting on preferences and any subsequent publication of results. This survey fully complies with the General Data Protection Regulation (GDPR) (EU)2016/679.

Contact details: In case of questions or additional comments you may contact Nadia Papadopoulou at: nadiapap@hcmr.gr

PLEASE submit your contribution by (20/03/2018)



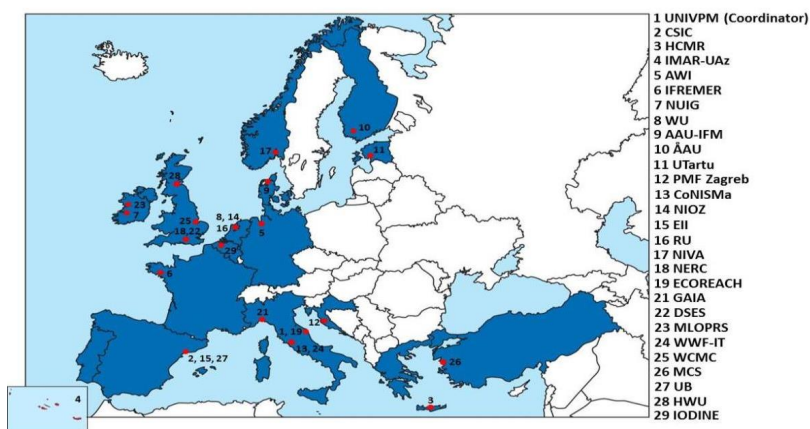
Marine Ecosystem Restoration
in Changing European Seas



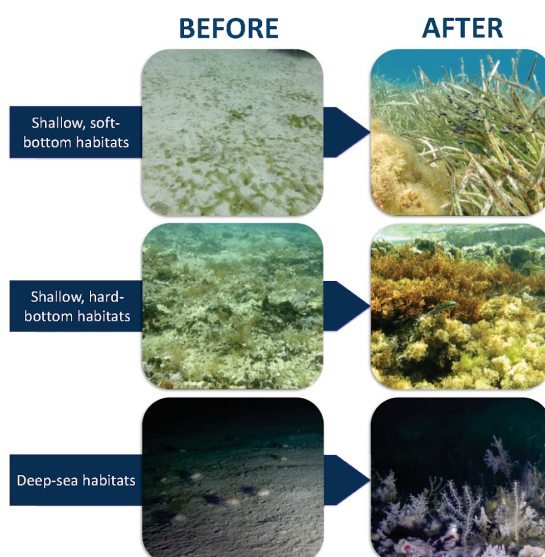
MERCES has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 689518

MERCES Partners and Restoration Cases

The MERCES Consortium



Restoration Cases in MERCES



GENERAL INFORMATION

1. Sex

Tick all that apply.

☐ Female

☐ Male

2. Age*Tick all that apply.*

- ☐ < 25
☐ 26-45
☐ 46-65
☐ > 65

3. Education*Tick all that apply.*

- ☐ School
☐ College/University
☐ PhD

4. Country*Tick all that apply.*

- ☐ Netherlands
☐ Ireland
☐ Norway
☐ Greece
☐ Italy
☐ Other: _____

5. Type of stakeholder*Tick all that apply.*

- ☐ National government (e.g. in a ministry)
☐ Local government (e.g. fish inspector, coastguard)
☐ Research/Education/Environmental consultant
☐ Environmental groups/NGOs
☐ Recreational fisher/diver
☐ Other: _____

6. Type of business*Tick all that apply.*

- ☐ Tourism/Travel/Hotel/Dining
☐ Dive business
☐ Fisheries
☐ Aquaculture
☐ Other: _____

7. Comments

You may provide more details on stakeholder type/your business (e.g. coastguard, type of fisheries, publications on fisheries, expertise on environmental law, etc)

Section 1: On Activities/Pressures

Looking at possible causes of degradation/loss

8. Q1: How much of a threat (if any) do you think these 7 activities pose to the marine environment in your country?

Tick all that apply.

	Very high	High	Moderate	Little	No	I do not know
Agriculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aquaculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil-gas exploitation drilling/rigs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tourism/Recreation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Comments

10. Q2: Have you heard before/are you familiar with the term Blue Growth?

Blue Growth is growth and employment arising from marine industries such as coastal/maritime tourism, biotechnology, mining, wind farms, aquaculture, but important sectors of the blue economy also include: shipbuilding, transport, oil-gas, fishing.

Tick all that apply.

- ☐ Yes
- ☐ No

11. Q3: In your view, how important are these 5 blue economy sectors in your country?

Activity employment importance

Tick all that apply.

	Very Important	Important	Moderate	Little	Not at all	I do not know
Aquaculture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coastal/Maritime tourism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine transport	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil-gas exploitation drilling/rigs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Comments

13. Q4: How much of a threat (if any) do you think these 5 pressures pose to the marine environment in your country?

Pressure threat level

Tick all that apply.

	Very high	High	Moderate	Little	No	I do not know
Alien/Invasive species	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemicals/Organics /Pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overfishing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Habitat destruction/Physical modification	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine litter and plastics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Comments

Section 2: About marine protection in general

15. Q5: Do you agree/disagree with the following statements?*Tick all that apply.*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I do not know
A part of marine ecosystems should be protected (e.g. with MPAs, NATURAs, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We should protect 10% of marine ecosystems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We should protect more than 10%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Comments

Section 3: About ecosystem services/importance of the oceans

17. Q6: Have you heard before the term natural capital?

Natural capital is a concept that unites the economy and the environment as allies for a sustainable future. It comprises the world's stocks of physical and biological resources, including air, water, minerals, soils, fossil fuels and biodiversity.

Tick all that apply.

- ☐ Yes
- ☐ No

18. Q7: Have you heard before the term ecosystem services?

Ecosystem services are the direct and indirect contributions of ecosystems to human well-being (e.g. products or experiences). Ecosystem services are provisioning (e.g. food/seafood, other biological services such as water, medicinal and ornamental), supporting (e.g. essential fish habitats for reproduction, gene pool protection), regulating (e.g. weather climate regulation, coastal erosion prevention) and cultural (opportunities for leisure/recreation, inspiration for art and design, as part of your culture and identity, for education and science, its scenery etc).

Tick all that apply.

- ☐ Yes
- ☐ No

19. Q8: How important are these marine ecosystem services to you?*Tick all that apply.*

	Very important	Important	Moderate	Little	Not at all	I do not know
Provisioning, e.g. seafood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting, e.g. habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulating, e.g. climate regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cultural, e.g. recreation, culture, identity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. Comments

Section 4: Statements about the need/want or not of restoring

21. Q9: Do you agree/disagree with the following statements?*Tick all that apply.*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I do not know
We need to restore marine ecosystems to the benefit of our economies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We have the responsibility to restore marine ecosystems for the benefit of future generations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
"Polluter pays", if we damage, we need to pay for restorative actions (e.g. oil spills)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No net loss of biodiversity/ecosystem services: damages and losses resulting from human activities in one area must be balanced by a gain elsewhere provided that we remain at the no net loss point	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Comments

Section 5: About marine ecosystems in your country

23. Q10: Questions about species and ecosystems*Tick all that apply.*

	Yes	No
Do you know of any damaged ecosystems/threatened species/ecosystems in your country?	<input type="checkbox"/>	<input type="checkbox"/>
Do you know of any protected species/ecosystems in your country?	<input type="checkbox"/>	<input type="checkbox"/>
Do you know of any MPAs in your country?	<input type="checkbox"/>	<input type="checkbox"/>
Do you know of any marine restoration project in your country?	<input type="checkbox"/>	<input type="checkbox"/>
Do you know of any terrestrial restoration project in your country?	<input type="checkbox"/>	<input type="checkbox"/>

24. Comments

If yes, please indicate which ecosystem, species, area, or project you refer to

25. Q11: Questions about ecosystem status*Tick all that apply.*

	Very good	Good	Moderate	Bad	Poor	I do not know
How would you rate the overall status of the marine ecosystems in your country?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How would you rate the overall status of the coastal waters in your country?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How would you rate the overall status of the deep waters in your country?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

26. Comments

Section 6: Marine restoration – Options

27. Q12: Do you agree/disagree with the following statements?*Tick all that apply.*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	I do not know
A part of marine ecosystems should be restored (e.g. by transplanting corals/seagrass /kelp)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We should restore 15% of marine ecosystems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We should do more than 15%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We should restrict impacting activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
We should deal with pollution and other problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Active interventions are required (e.g. planting corals)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A mixture of actions is required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine restoration can reverse negative human impacts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine habitats are too damaged to be restored	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine restoration is too expensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Marine ecosystems have high value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It does not matter if we restore a system in its original location or if we re-create a similar system elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

28. Comments

Section 7: Participating/Supporting/Paying

29. Q13: How likely would you be to support the following?

Tick all that apply.

	Very likely	Likely	Neutral	Unlikely	Very unlikely	I do not know
A national restoration fund by paying an annual tax	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A regional/local restoration fund by paying an annual fee to local authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A targeted local restoration project, e.g. for transplanting seagrass/kelp/corals in a specific area, by one-off donation or by participating in a crowdfunding campaign	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Volunteer to support a local restoration project, e.g. by diving, fishing or other vessel, aquarium duty, etc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

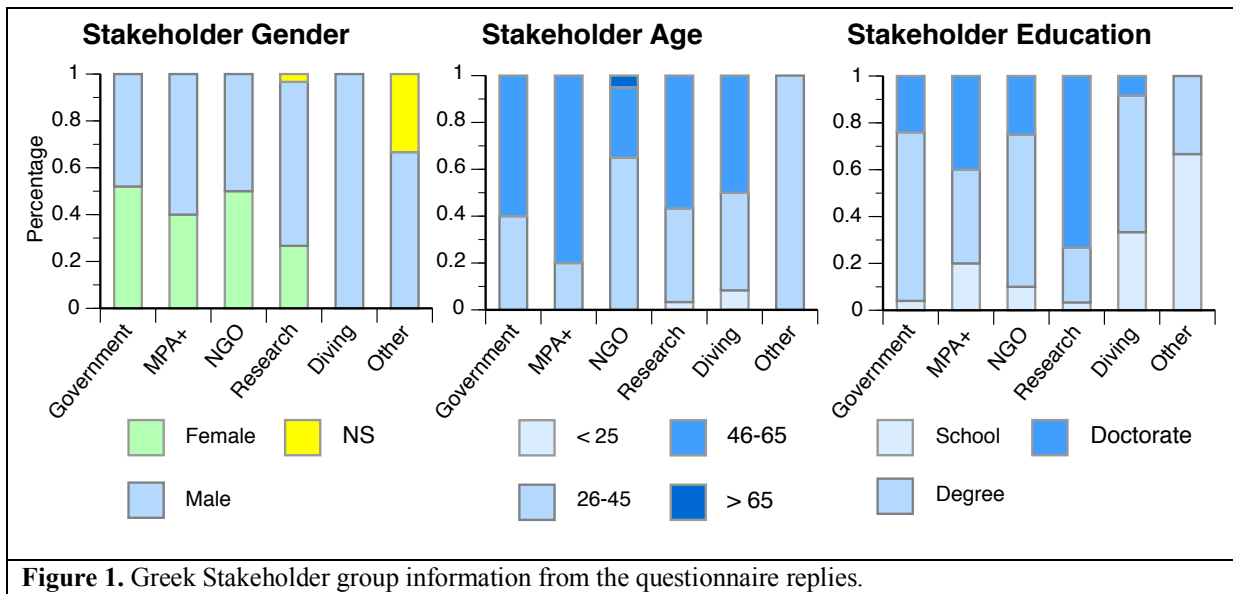
30. Comments

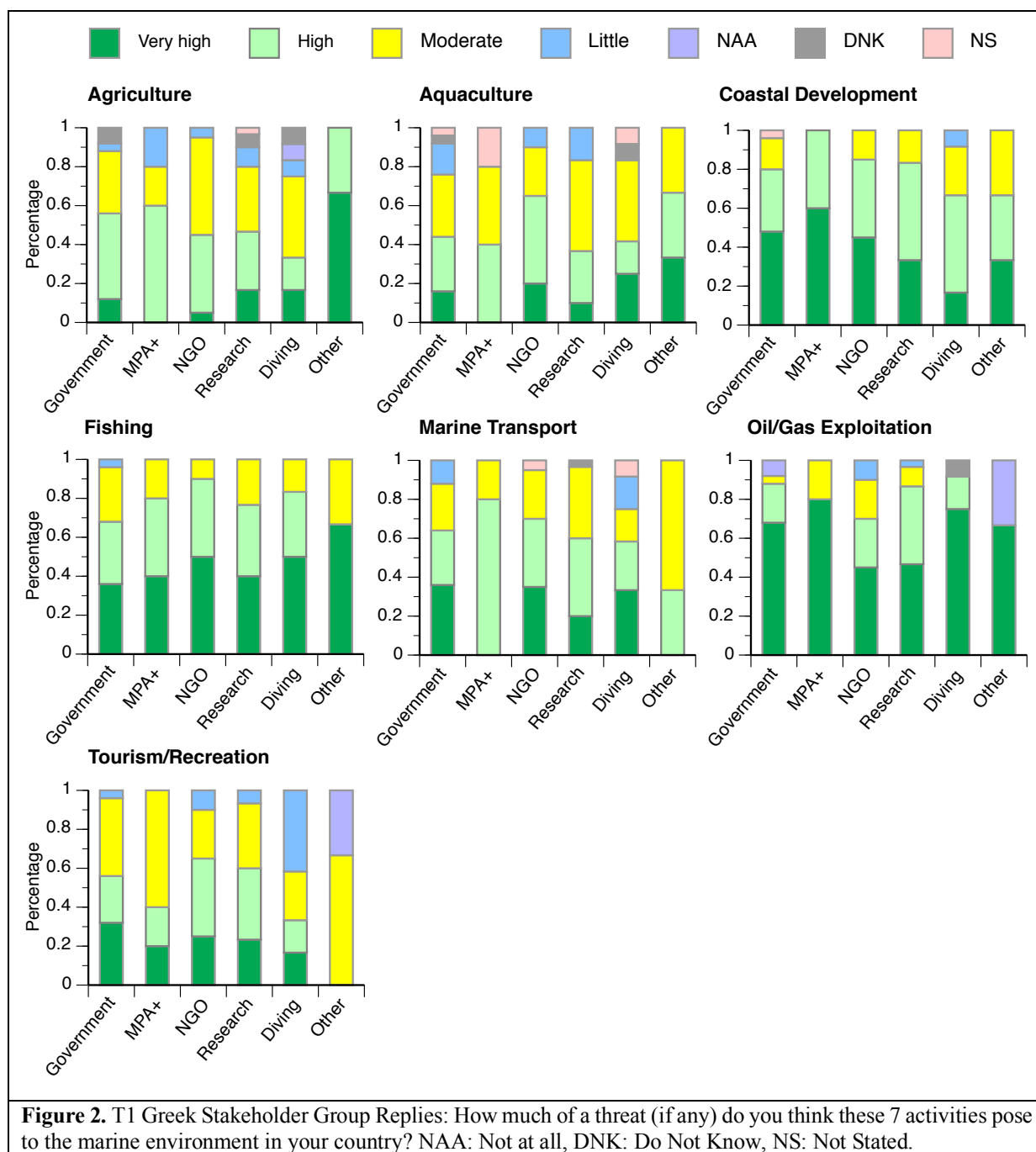
Comments

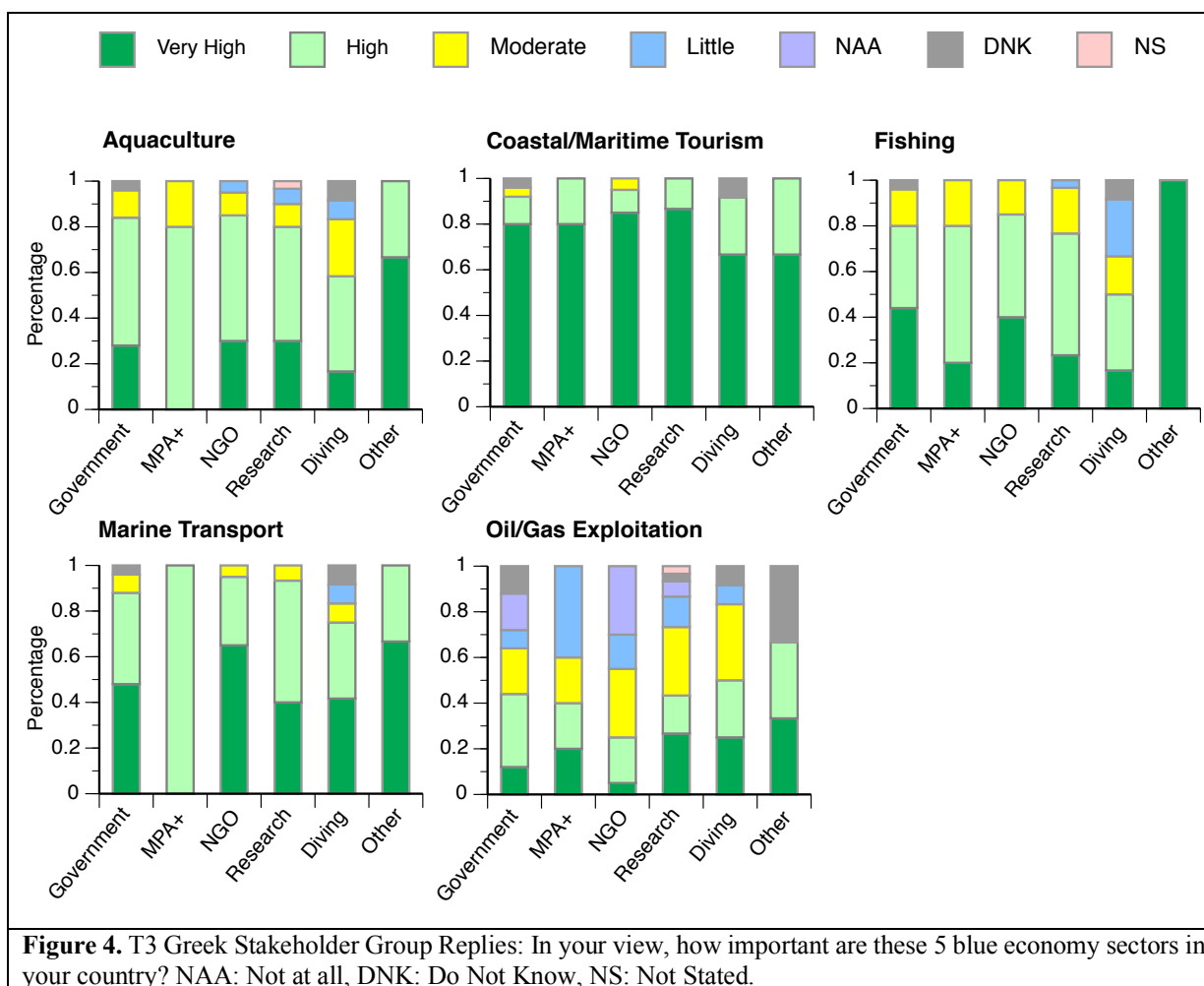
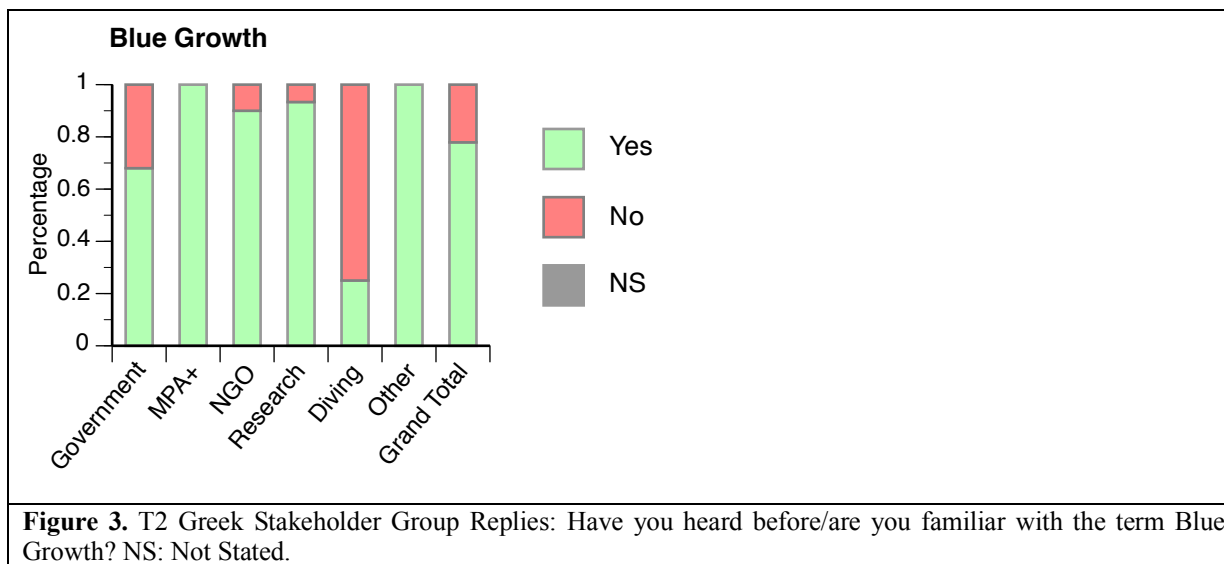
31. Please, insert here any comment related to the Questionnaire



ANNEX 2 Greek results by stakeholder group







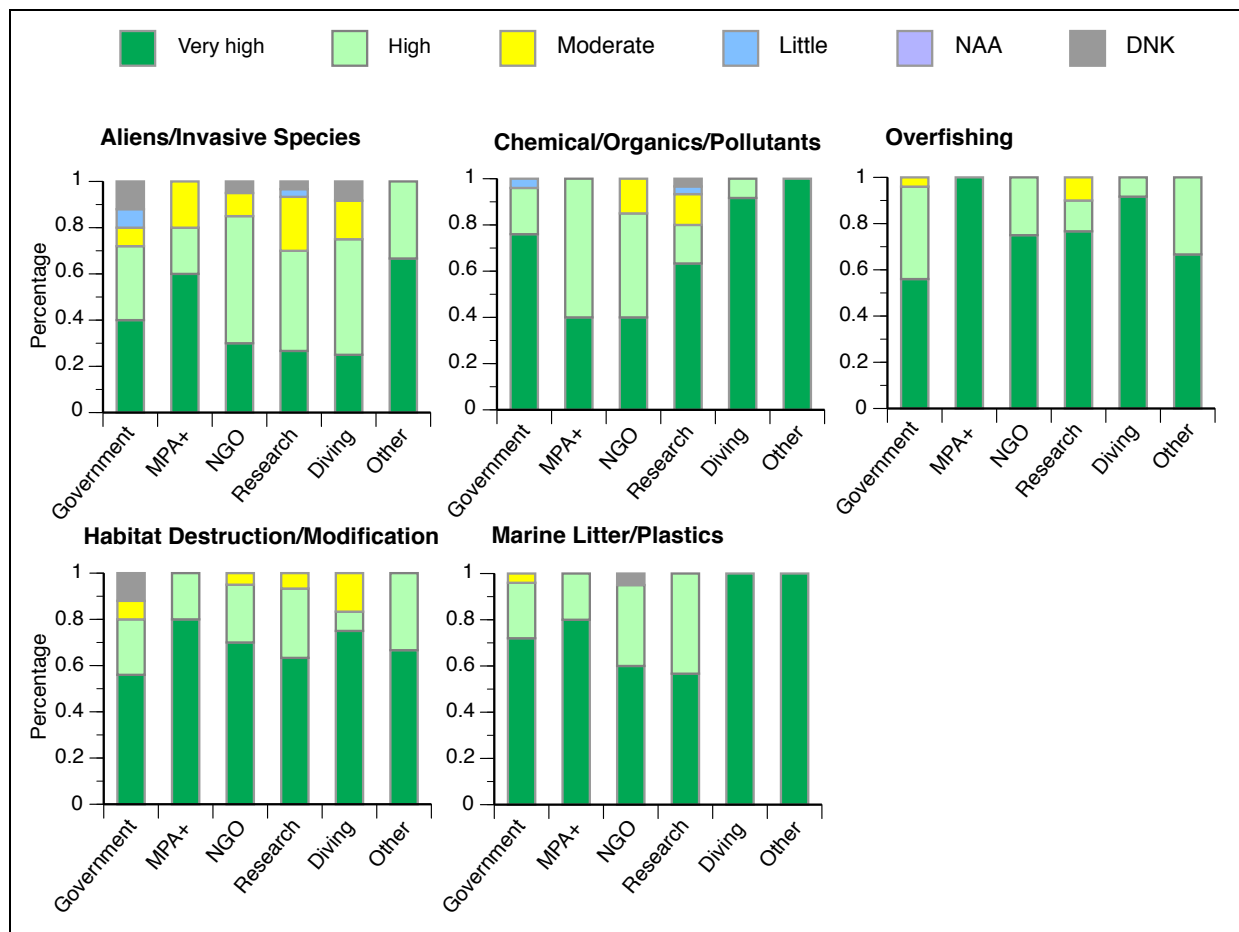


Figure 5. T4 Overall Greek Stakeholder Replies: How much of a threat (if any) do you think these 5 pressures pose to the marine environment in your country? NAA: Not at all, DNK: Do Not Know, NS: Not Stated.

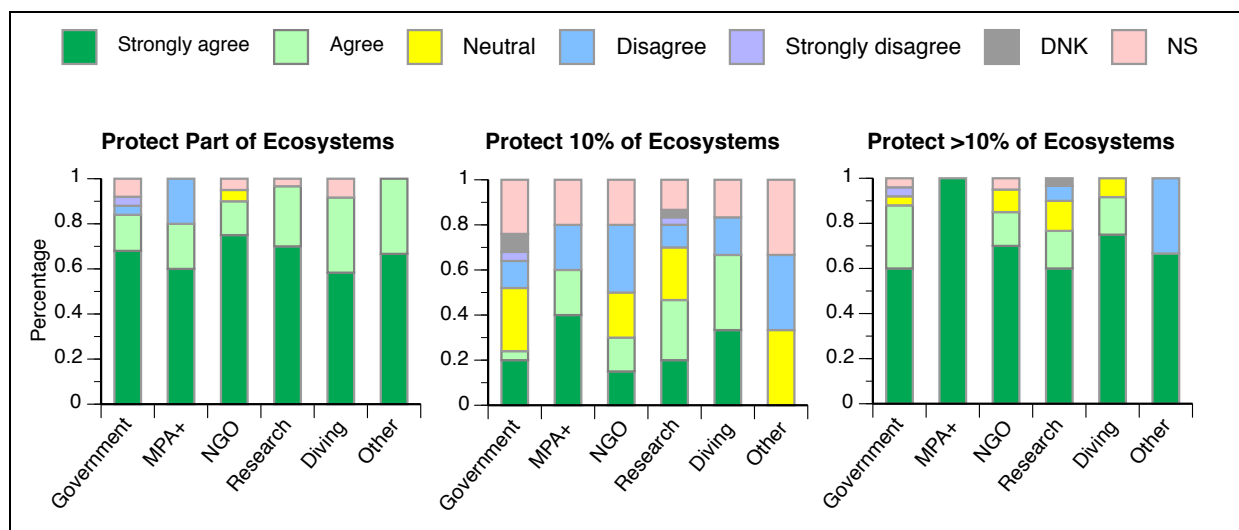
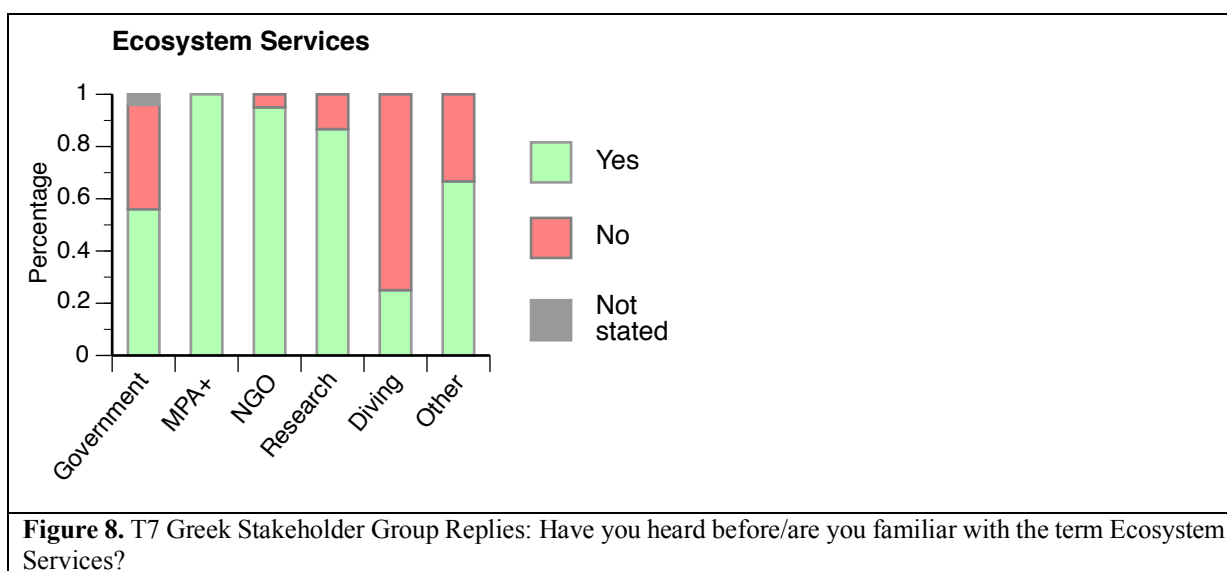
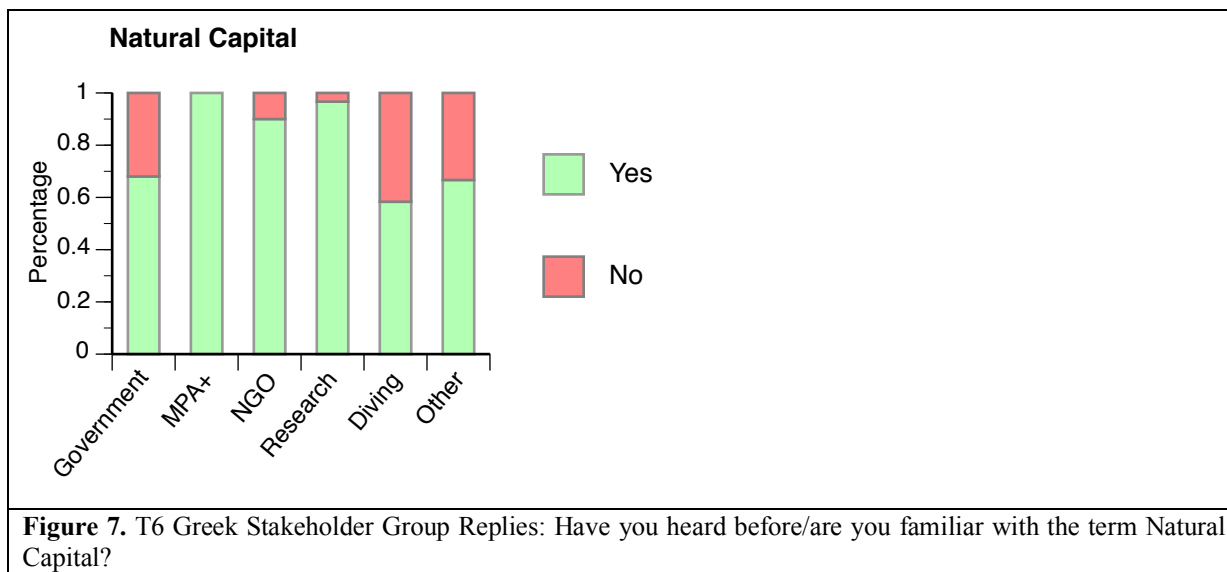
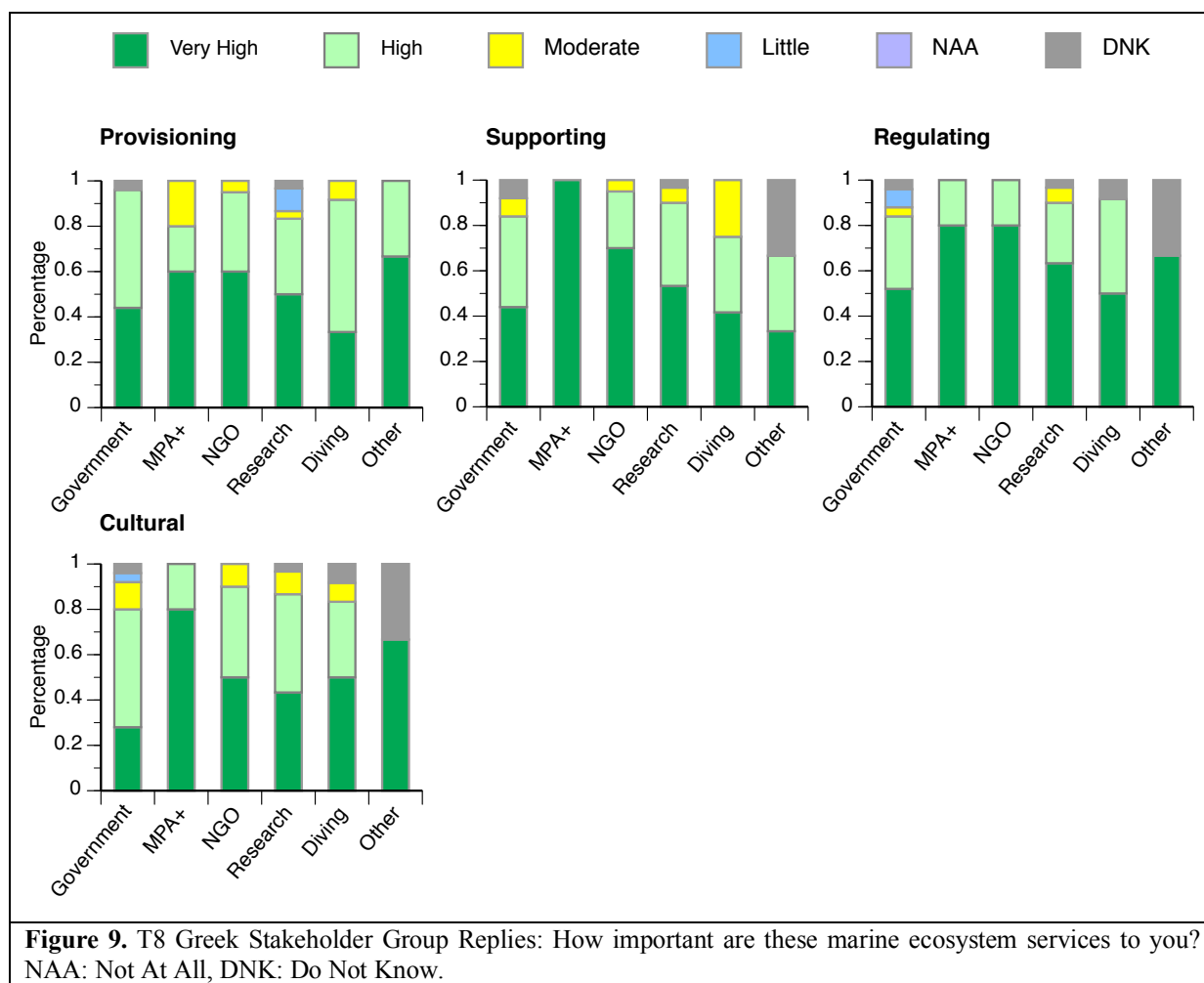


Figure 6. T5 Greek Stakeholder Group Replies: Do you agree/disagree with the following statements? DNK: Do Not Know, NS: Not Stated.





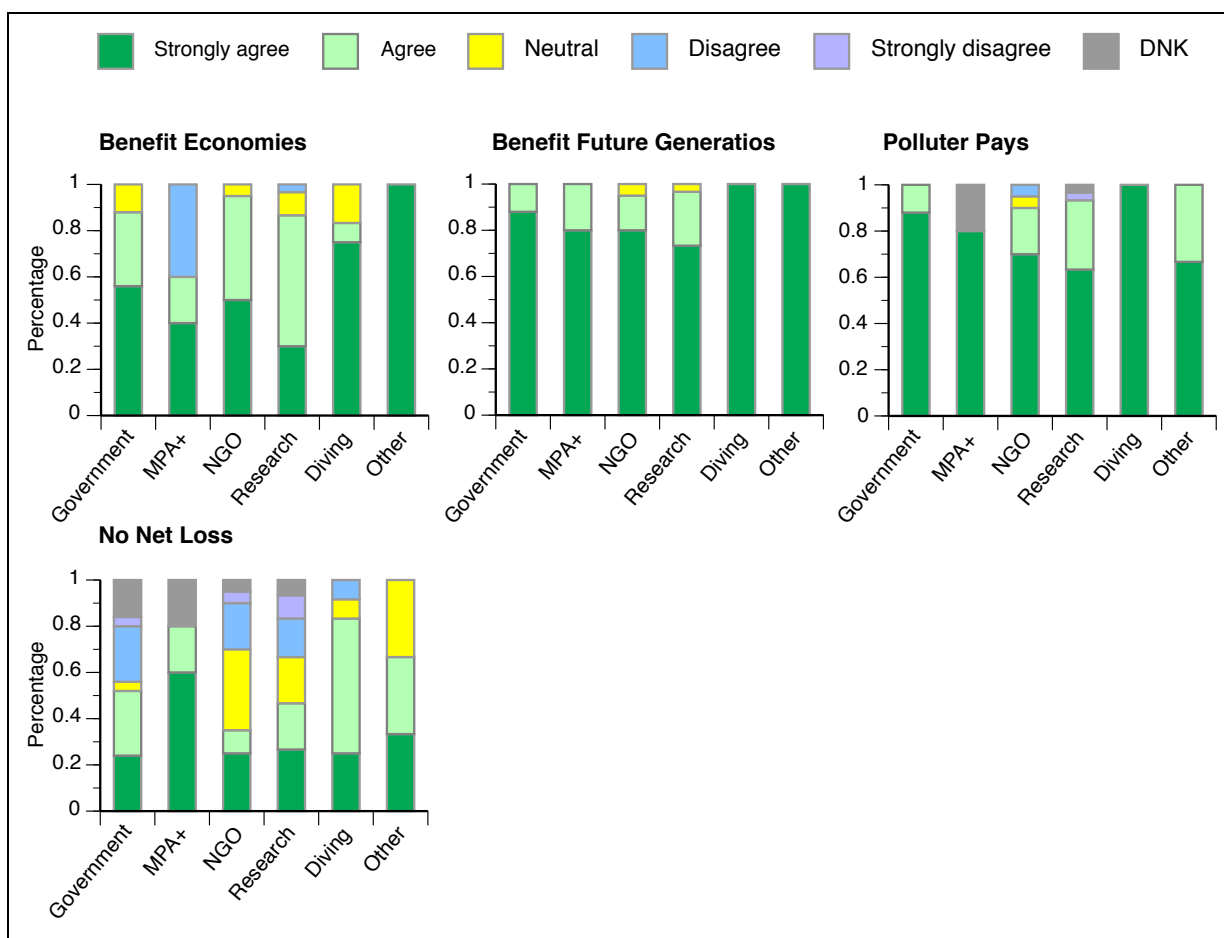
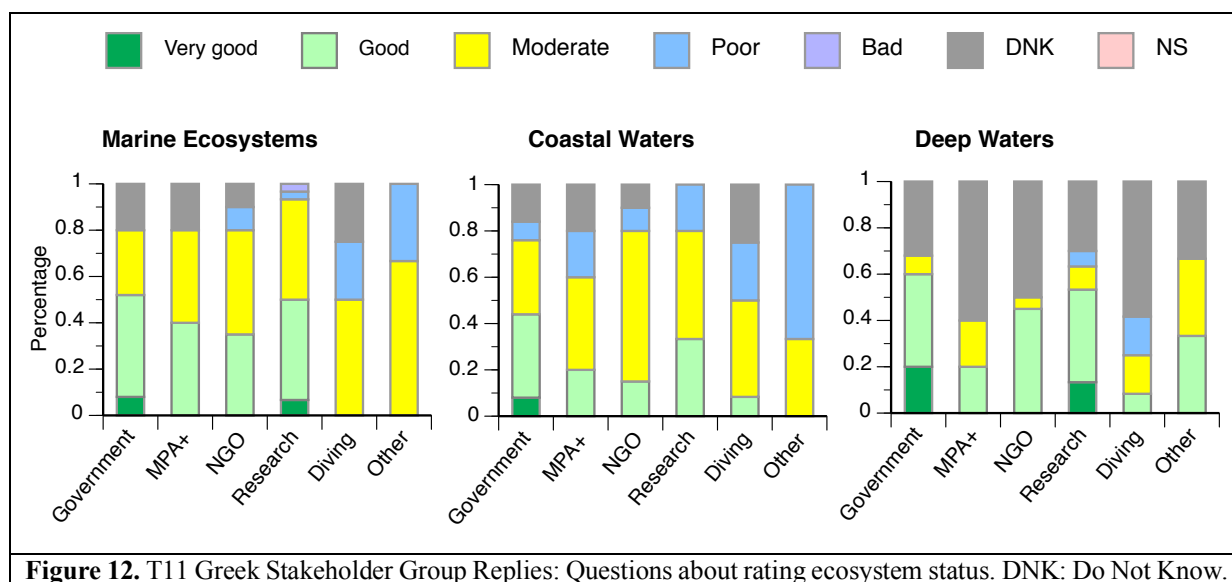
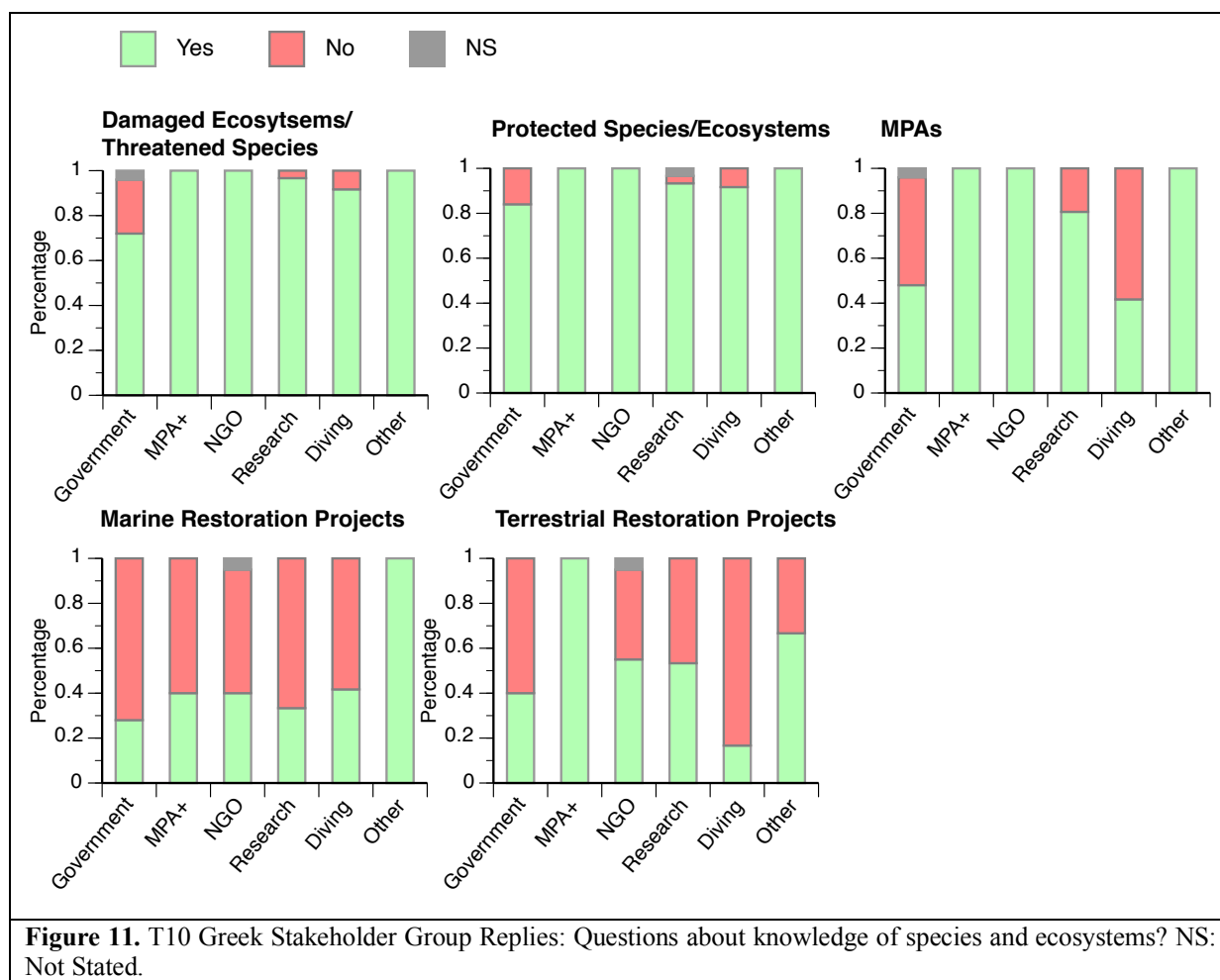


Figure 10. T9 Greek Stakeholder Group Replies: Do you agree/disagree with the following statements? DNK: Do Not Know.



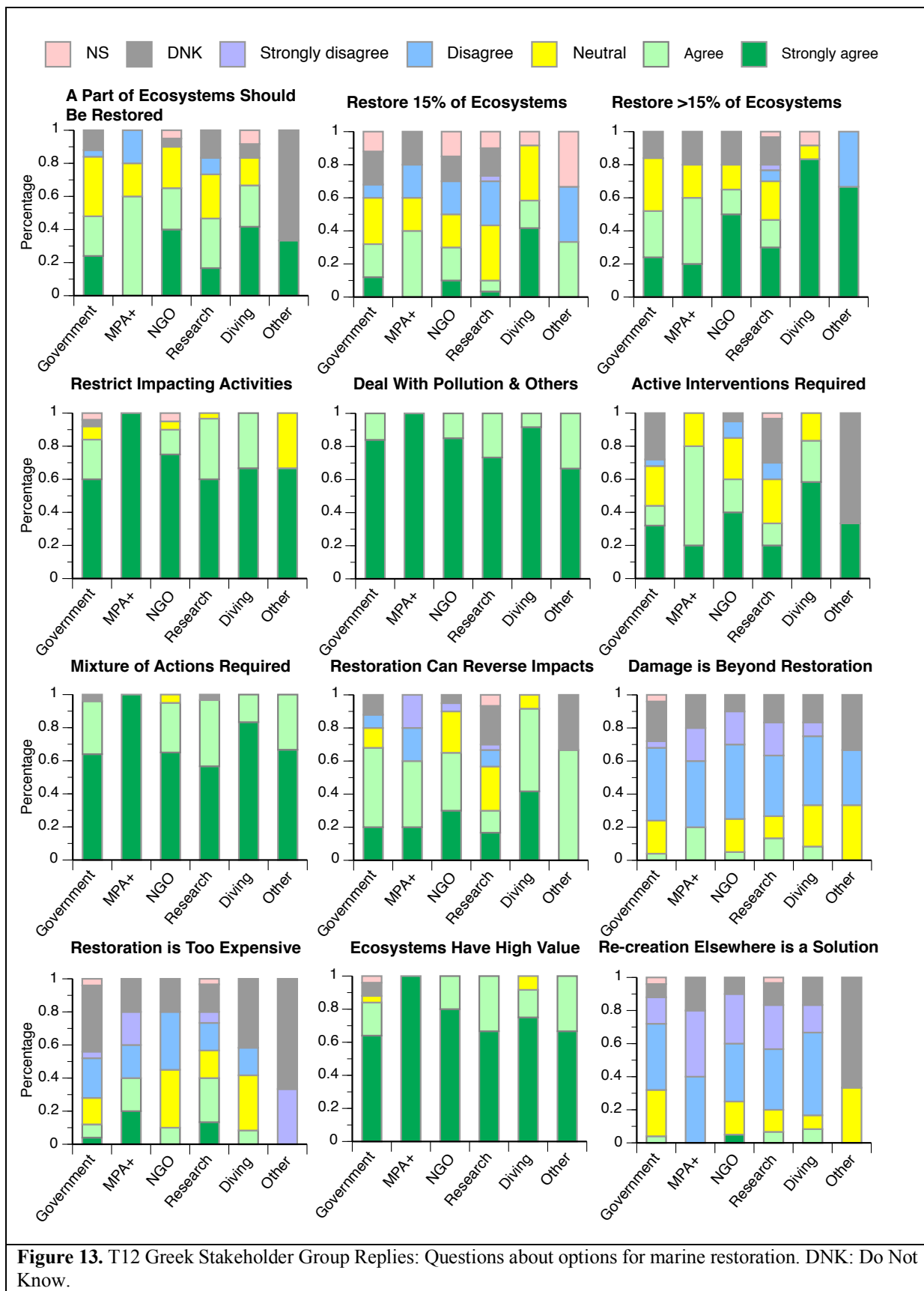


Figure 13. T12 Greek Stakeholder Group Replies: Questions about options for marine restoration. DNK: Do Not Know.

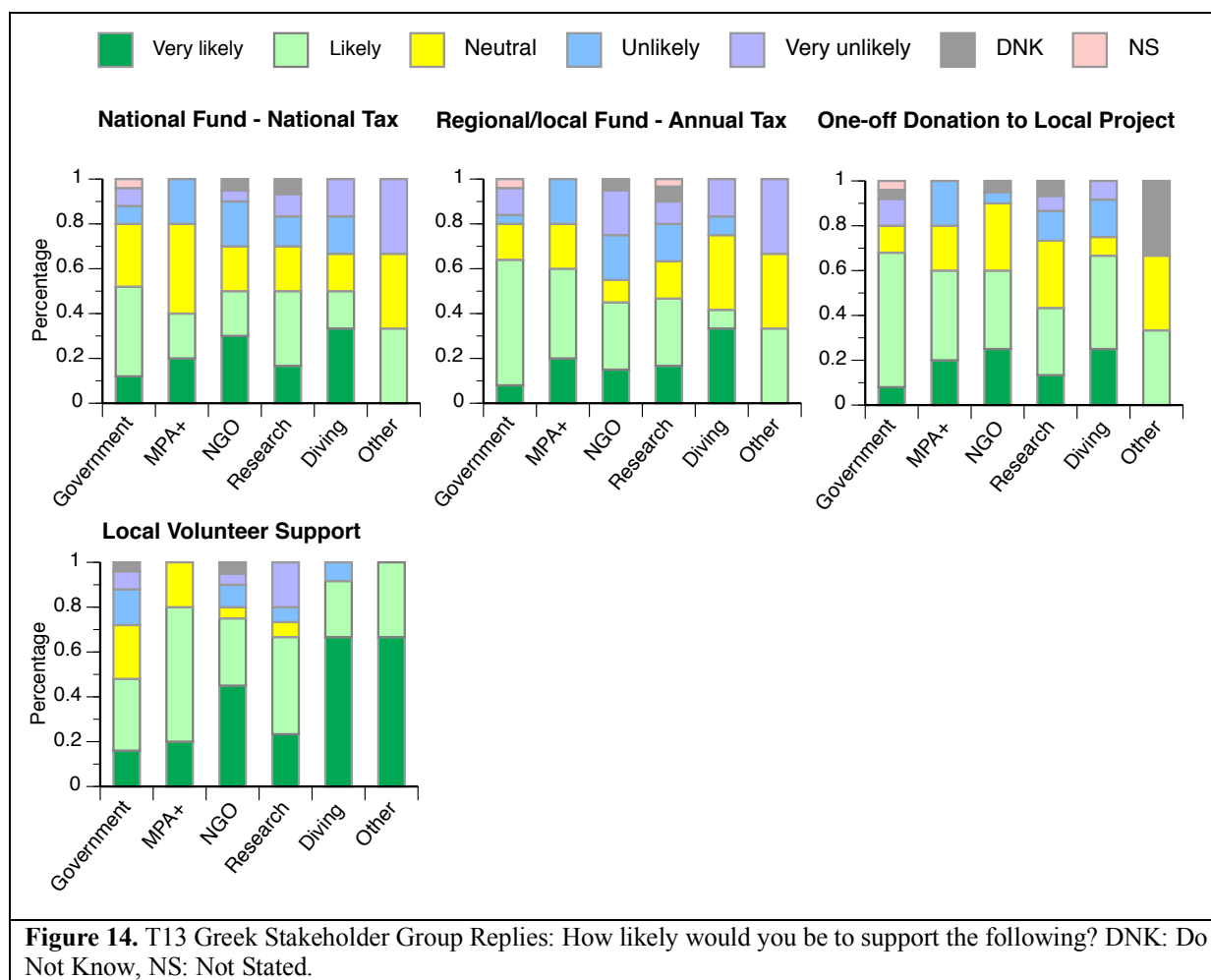
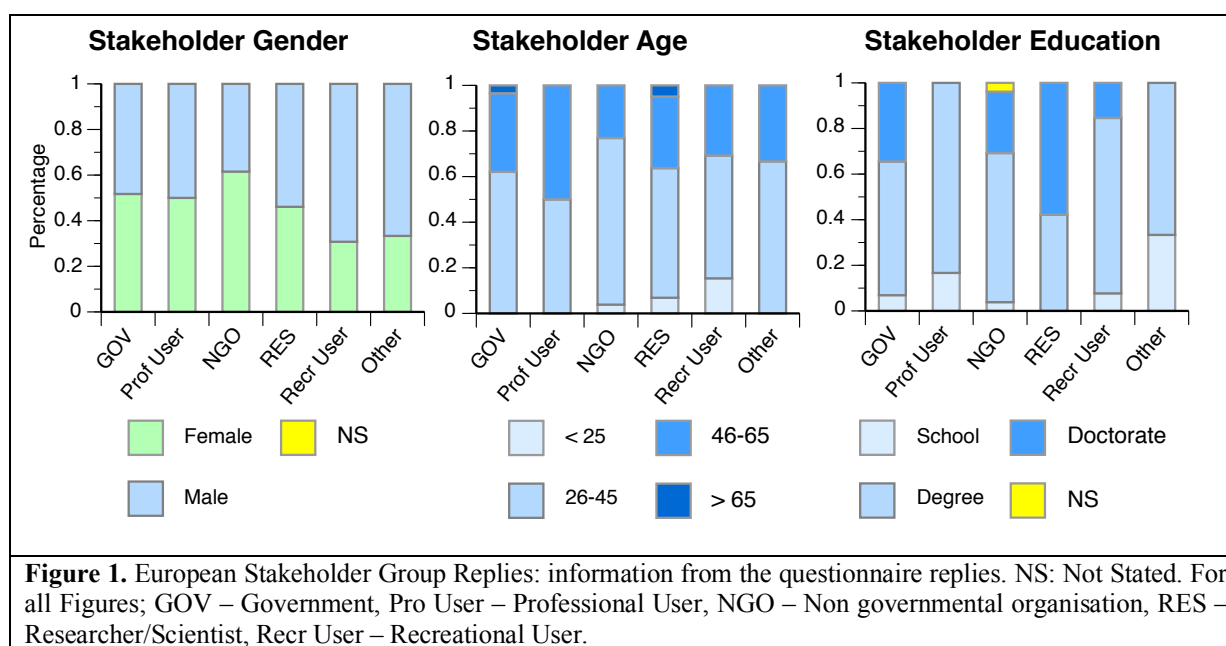
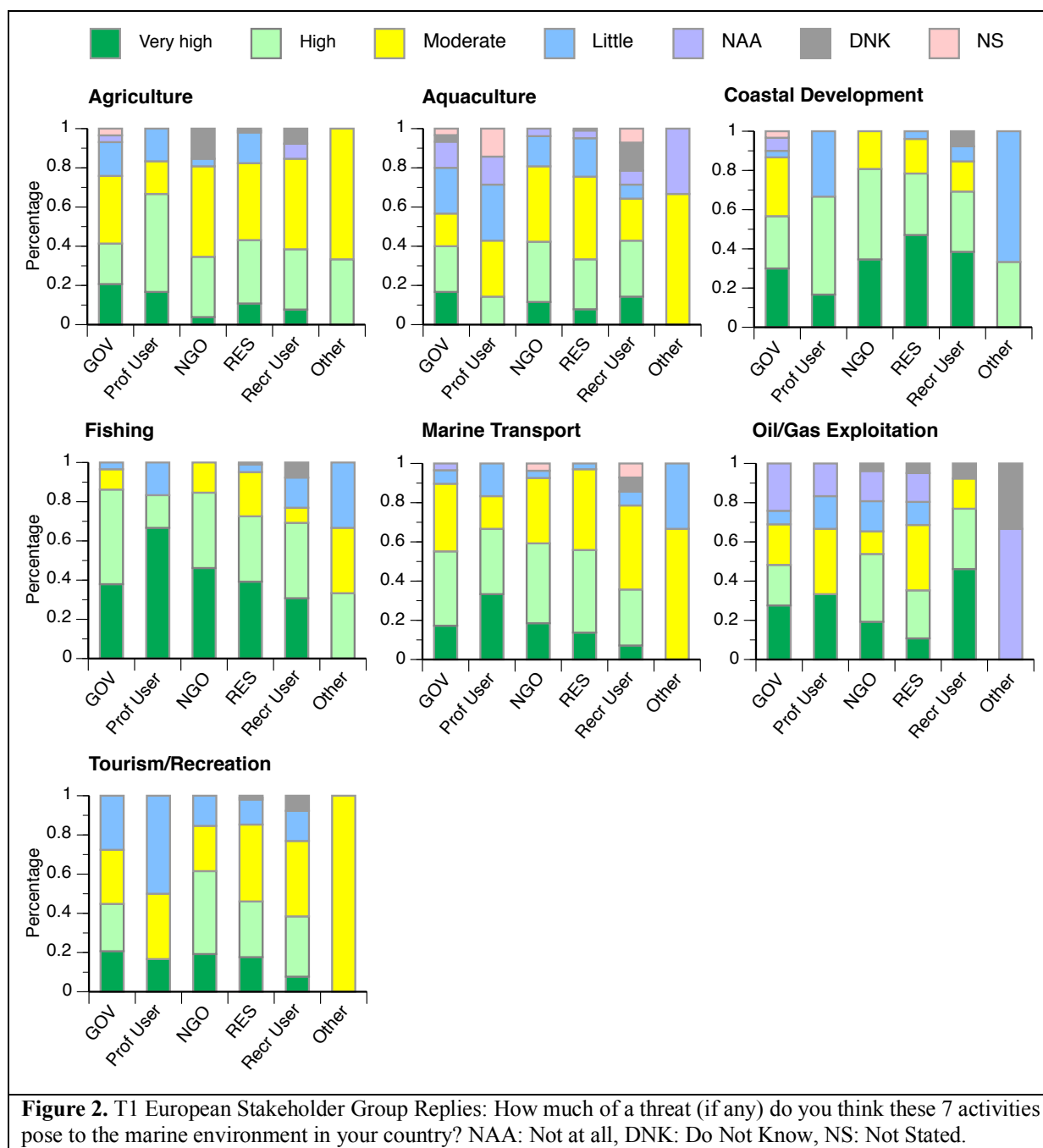


Figure 14. T13 Greek Stakeholder Group Replies: How likely would you be to support the following? DNK: Do Not Know, NS: Not Stated.

ANNEX 3 European results by stakeholder group





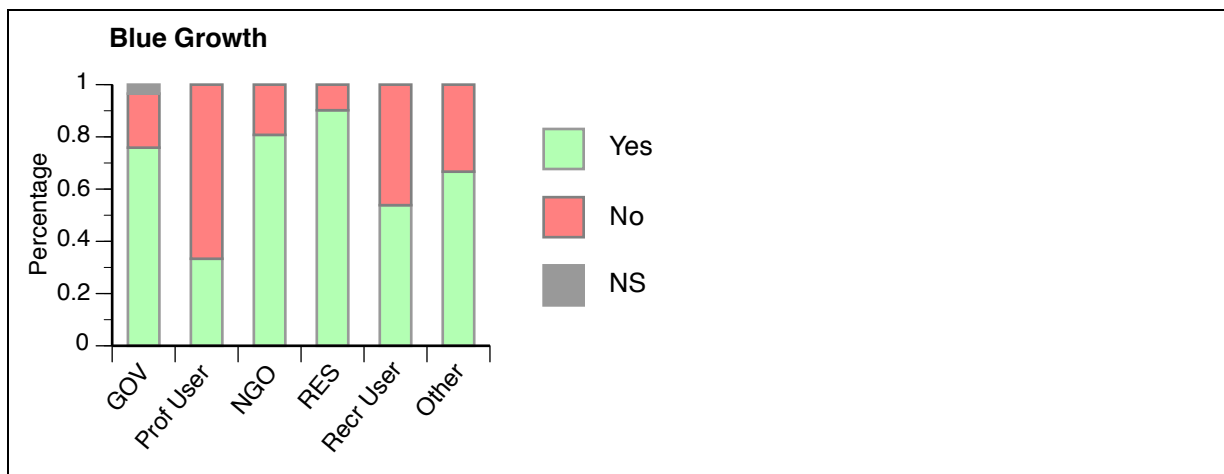


Figure 3. T2 European Stakeholder Group Replies: Have you heard before/are you familiar with the term Blue Growth? NS: Not Stated.

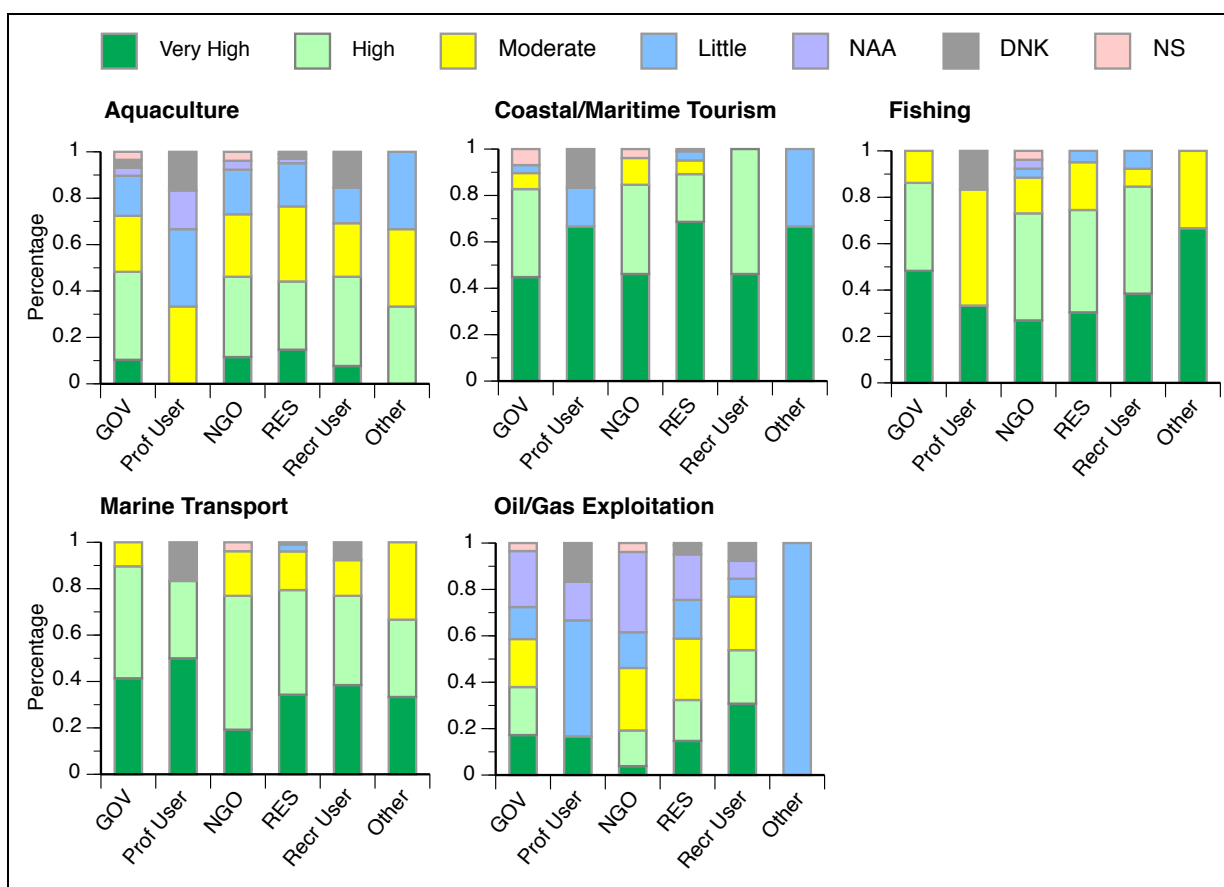
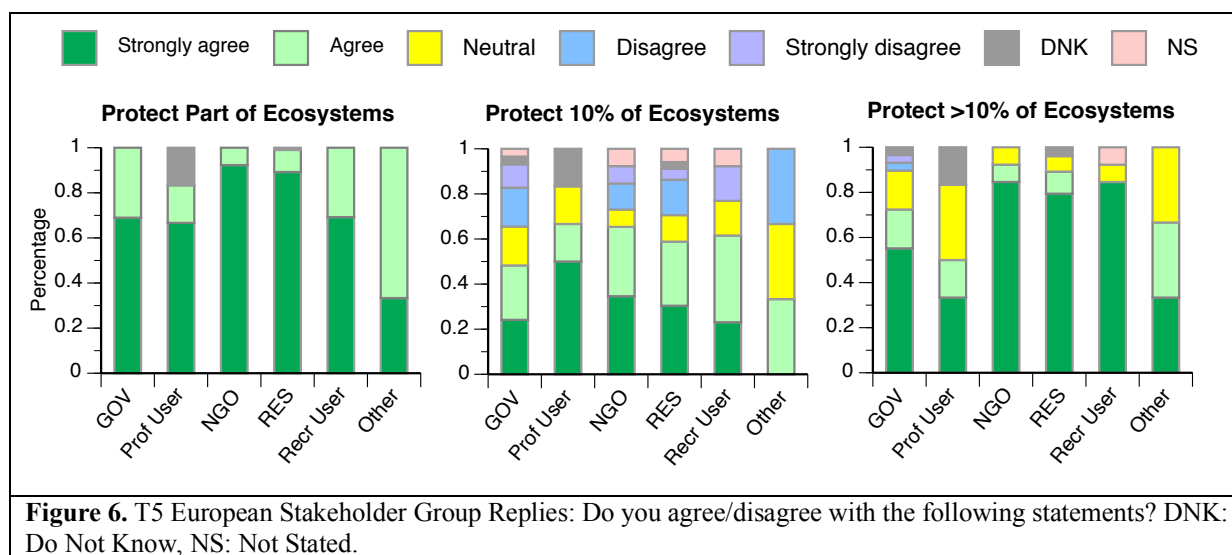
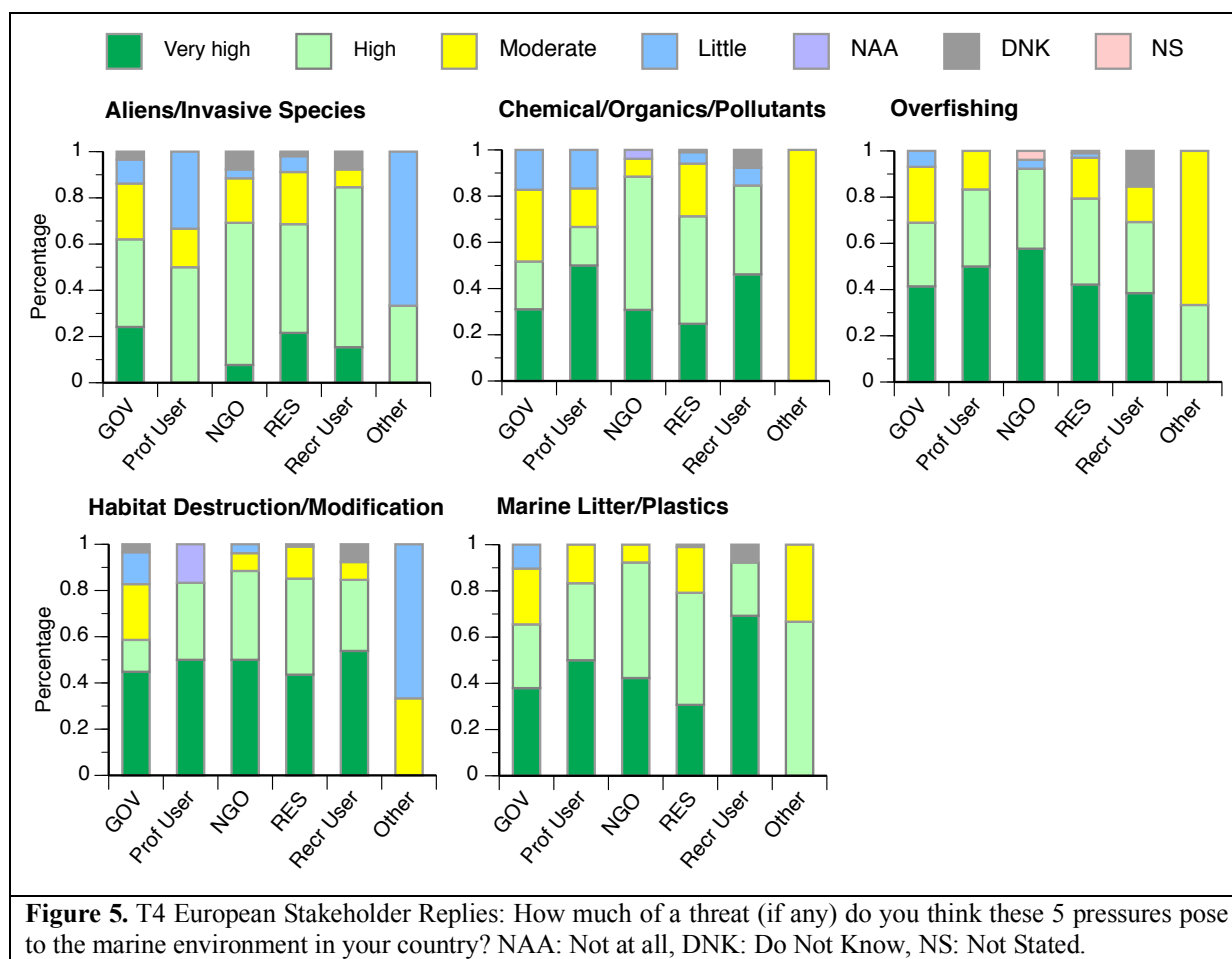


Figure 4. T3 European Stakeholder Group Replies: In your view, how important are these 5 blue economy sectors in your country? NAA: Not at all, DNK: Do Not Know, NS: Not Stated.



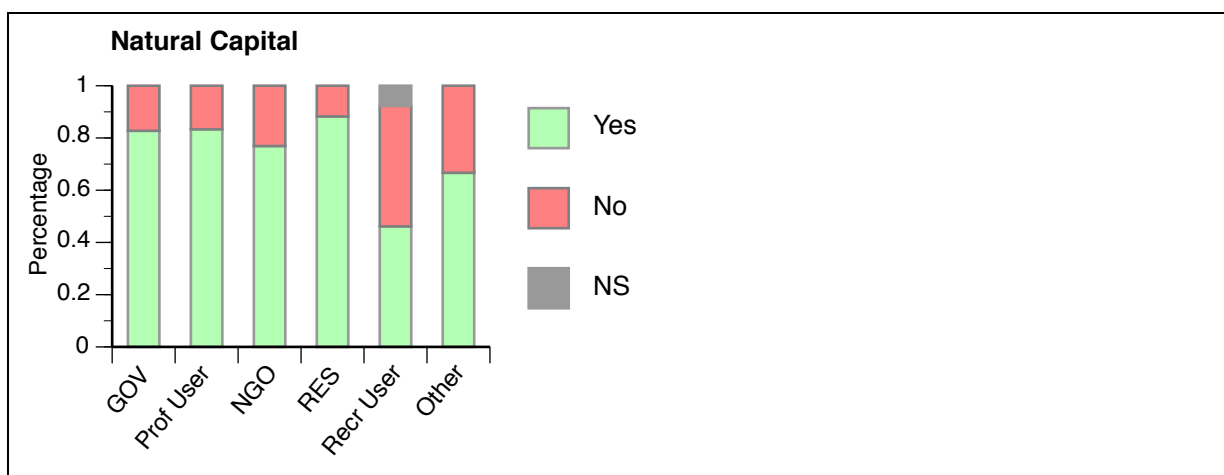


Figure 7. T6 European Stakeholder Group Replies: Have you heard before/are you familiar with the term Natural Capital? NS: Not Stated.

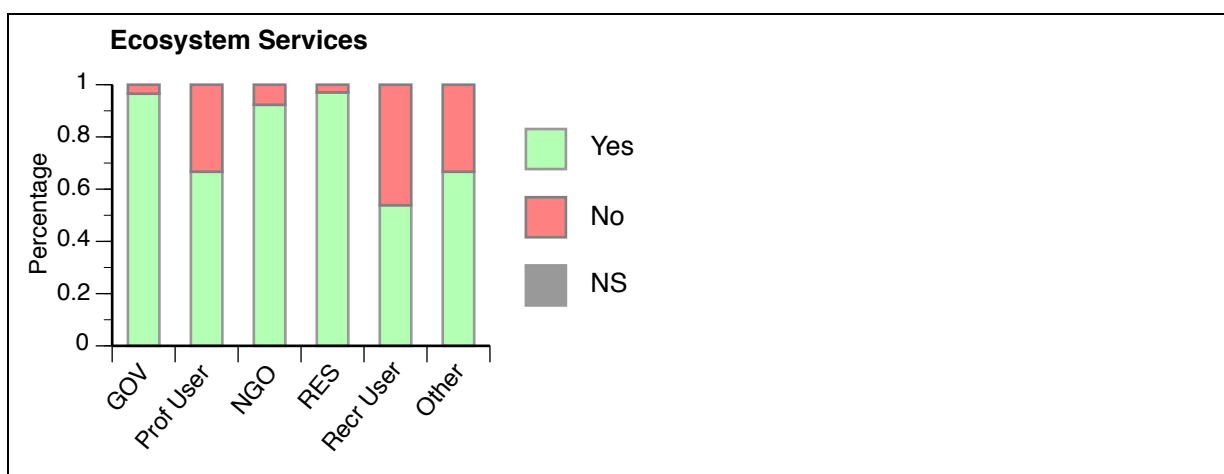
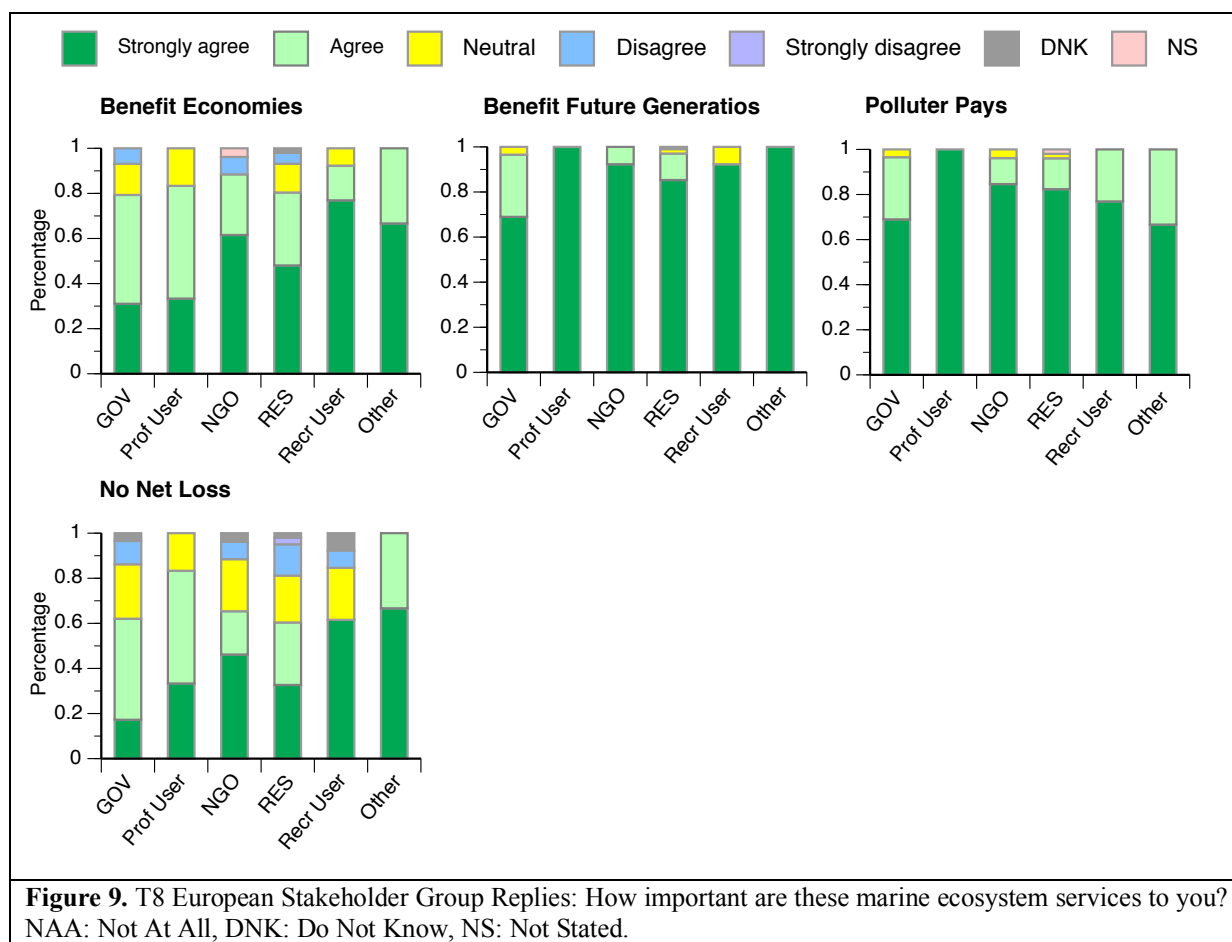
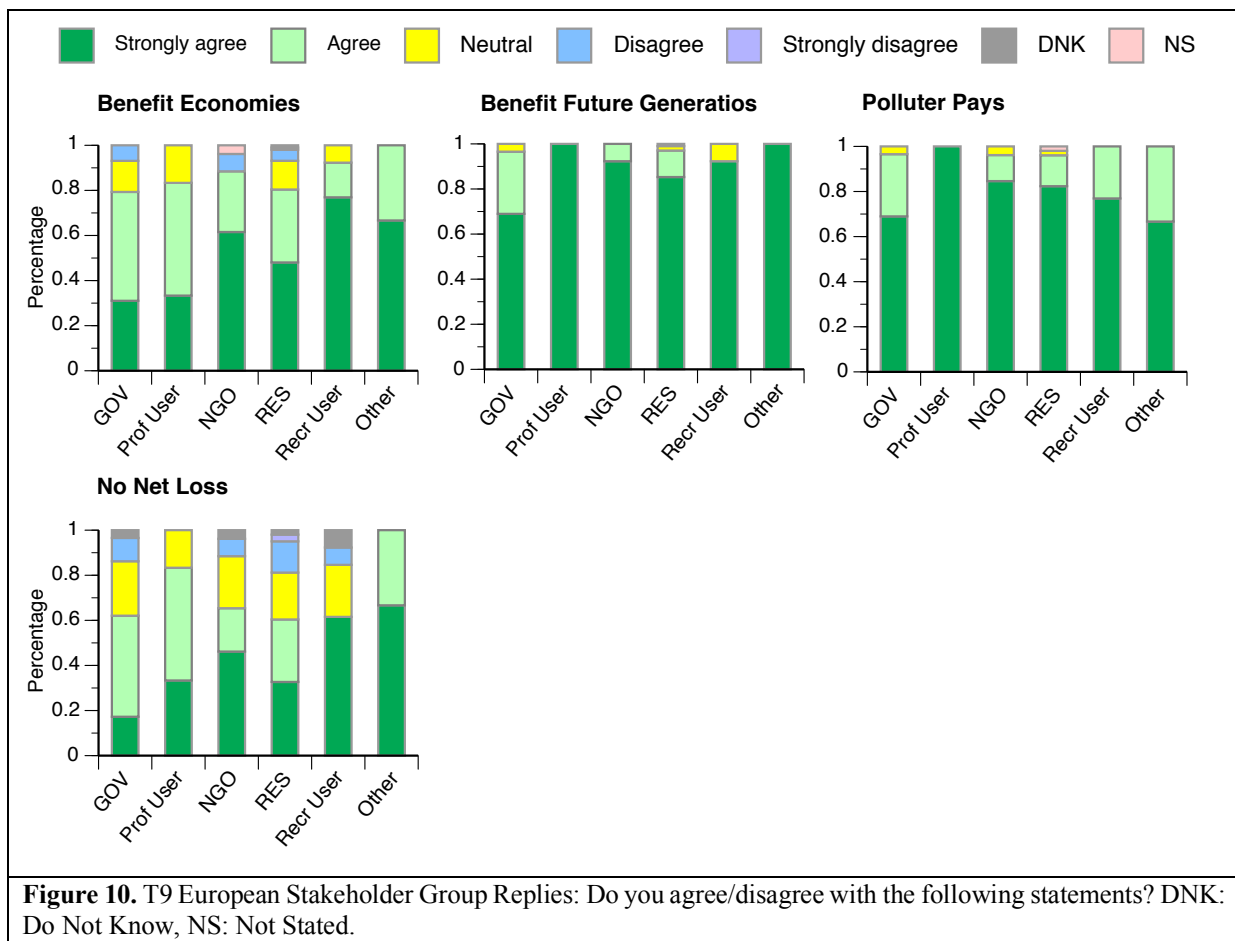
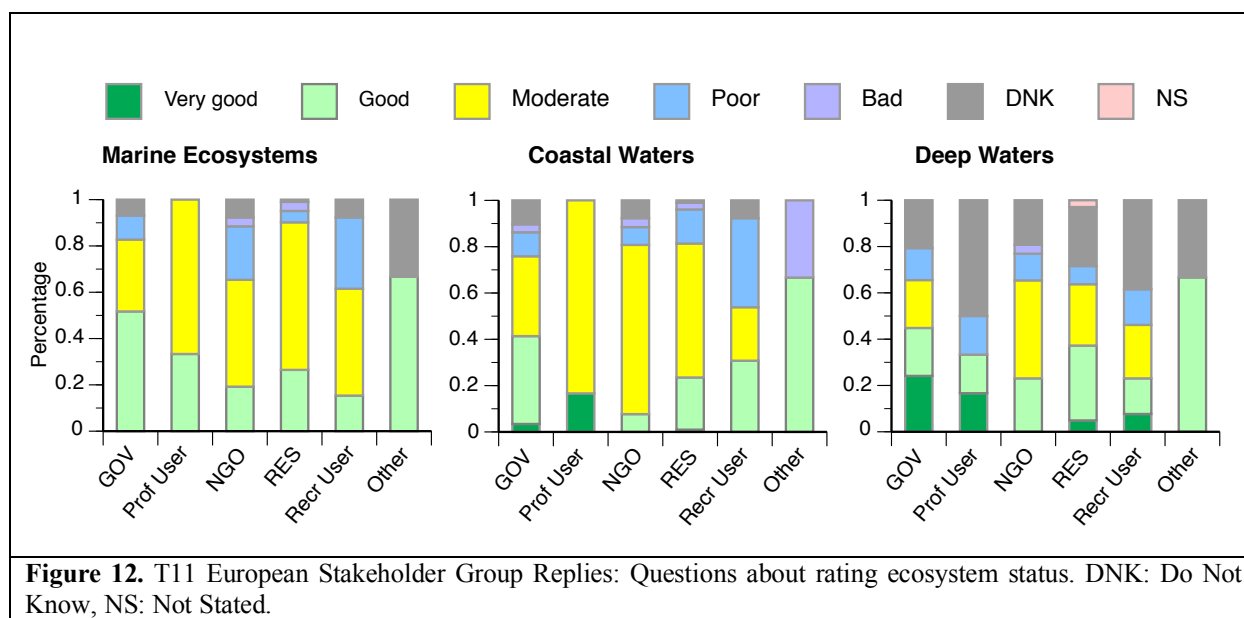
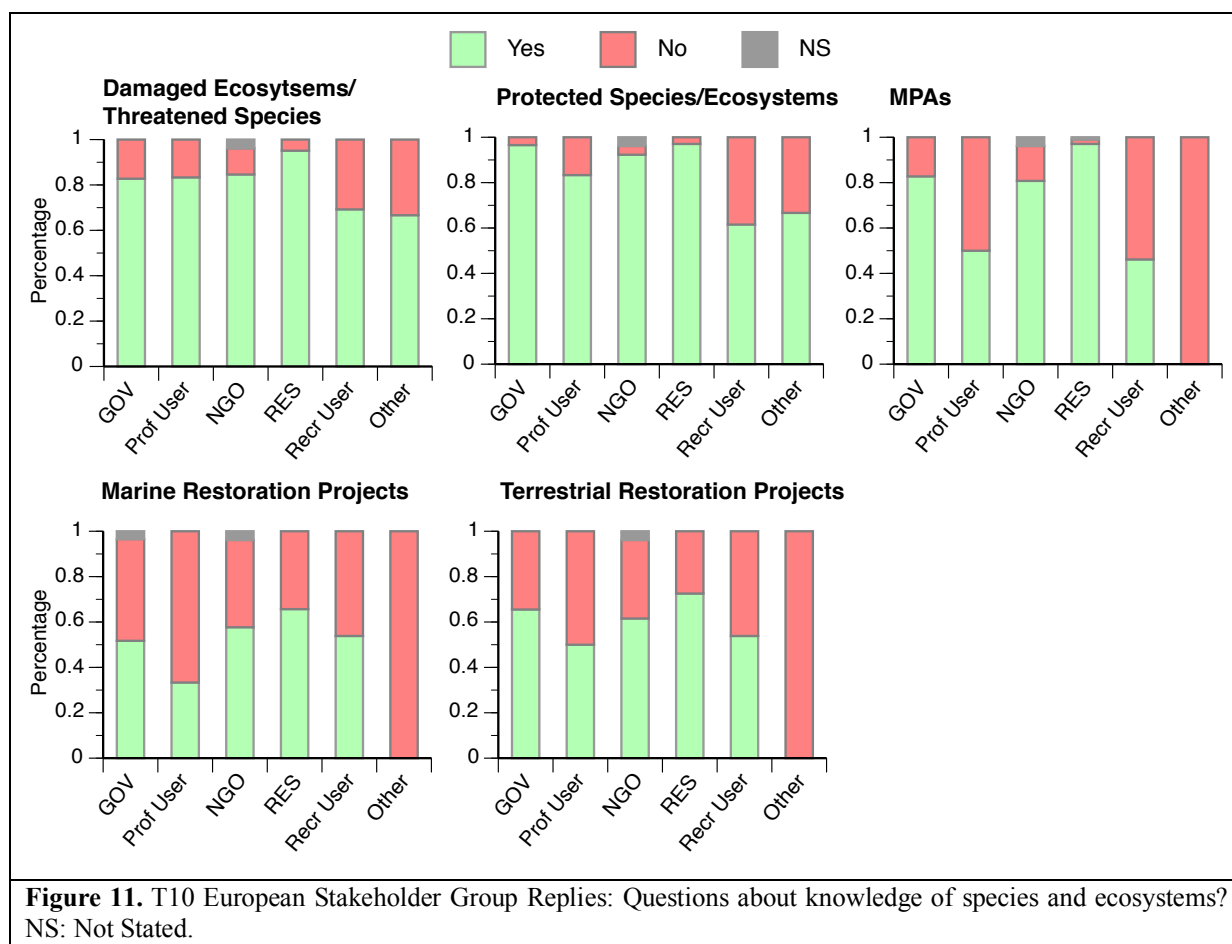


Figure 8. T7 European Stakeholder Group Replies: Have you heard before/are you familiar with the term Ecosystem Services? NS: Not Stated.







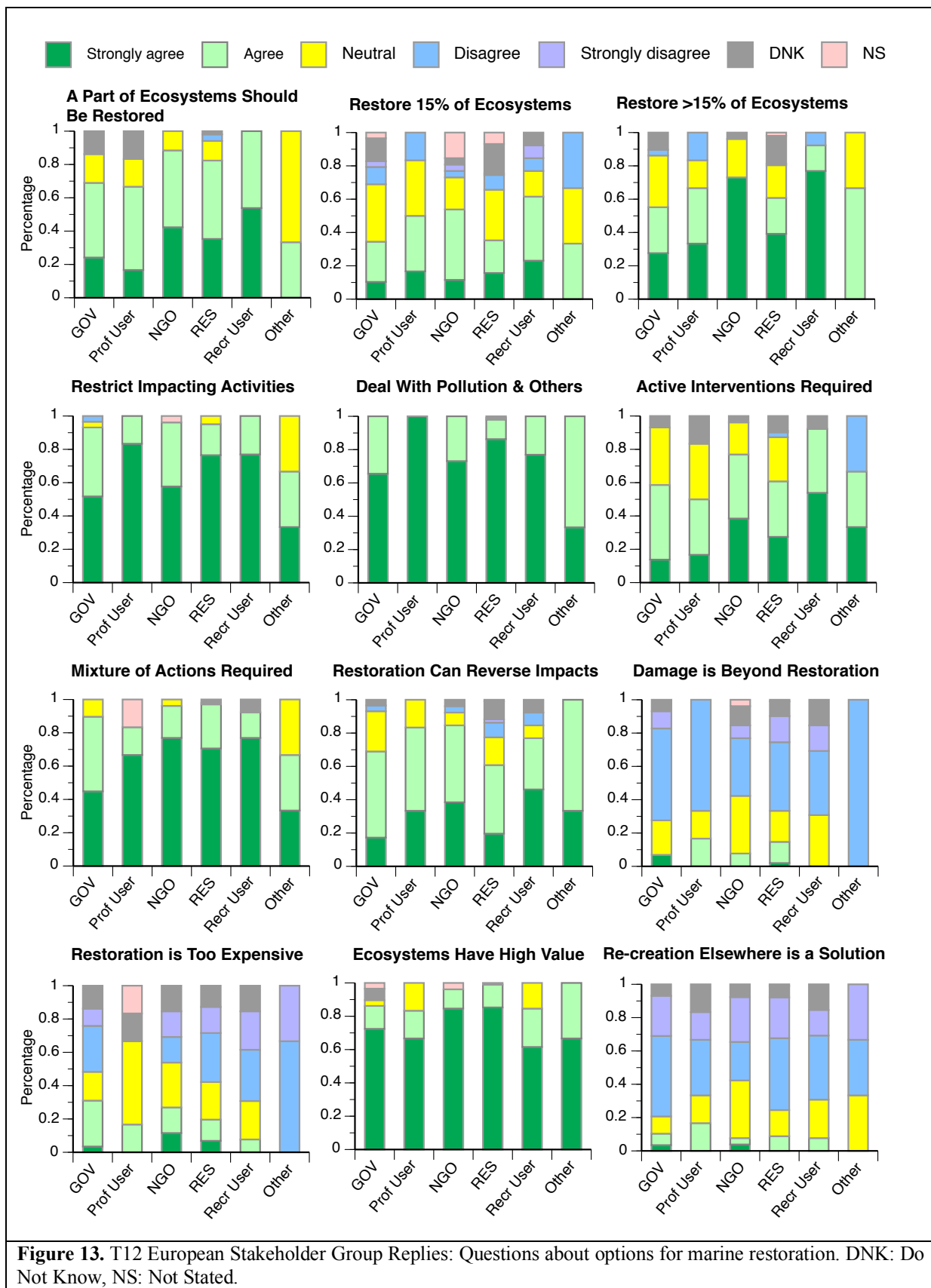


Figure 13. T12 European Stakeholder Group Replies: Questions about options for marine restoration. DNK: Do Not Know, NS: Not Stated.

