Do Large-scale fishers care for the sea?

A practice-based study of care in industrial fishing

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Abstract

Dragging trawlers to the sea bed and causing fish stock depletion are only few of the reasons large-scale fishers – operators of commercial level fishing – are associated with destructive practices that portrays them as indifferent to nature. This study challenges this dominant portrayal by examining how care can exist within large-scale fishing when understood as something expressed through practice rather than through emotional language.

Focusing on the context of Greece, the study asks: *how can care exist in large-scale fishing?* To address this question, the study followed a qualitative research based on semi-structured interviews with eleven skippers and visual material shared by participants. This research approach allowed fishers to present themselves through their own experiences and values rather than being treated as components of extractive processes. Initially, the research analysed care through discourse. However, given the limited expression of affective language, the methodological approach shifted towards identifying care in practices. The analysis was then guided by Social Practice Theory, which understands practices as the interlink of competences (knowledge and skills), materials (ojects), and meanings (values and purposes).

The findings show that care large-scale fishers is more frequently enacted than anticipated. Fishers practice care through protecting the sea in ways they belive sustain its ecological balance, educating younger generations and the public, and advocating for regulations aligned with their understanding of environmental responsibility. At the same time, they construct care narratives that legitimise their practices into forms of stewardship. The study also reveals how systemic and normative pressures shape the ways in which care can be expressed within this profession.

By including a group largely absent from studies of human–nature relationships, this research contributes both socially and academically to a more nuanced understanding of how care for the environment is practiced and understood by key stakeholders of the sea.

Keywords: Commercial fishing, Care, Social Practice Theory, Human-nature relation, Greece, Environmental Communication

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Abbreviations

Abbreviation	Description
LEK	Local Ecological Knowledge
LSF	Large-scale Fishers
SPT	Social Practice Theory
SSF	Small-scale Fishers

1. Introduction

"Fishers? Do you mean those who tear out the sea to make money, dump their litter in the water, only to do the same thing tomorrow until every fish has vanished?" The comment was made casually by a stranger, during a walk by the sea. Yet it stayed with me. Not because it was unfamiliar. In fact, I have heard versions of it before. It was because of the assumption buried inside it: that someone who extracts from nature for a living cannot care about it at the same time. If that's the case, large-scale fishers, those who operate industrial fishing at commercial levels, cannot care for the sea. This thesis begins here, with this assumption.

This study's aim is to explore how care exists in the context of large-scale fishing. To do so, it is important to see how scholars understand care. Care has multiple definitions and dimensions. Two well studied forms of care are: caring *about* nature (feeling) and caring *for* nature (action) (West et al. 2018). This study focuses mainly on caring *for* nature (care as practice).

Caring for nature refers to concrete actions. Philosopher Joan Tronto describes care as a practice rather than a set of rules (1993). In her often-cited definition, Tronto refers to care as "everything we do to maintain, continue and repair our "world" so that we can live in it as well as possible" (1993, p.103).

Tronto argues that studying care through practices is the most accessible way to approach care in contexts where it is difficult to express it verbally (1993; De La Bellacasa 2012). In most human-nature relationship studies, people self-report care through emotional language of compassion and appreciation (Lumber et al. 2017; Hultman & Pulé 2018; Moriggi et al. 2020). However, emotional expression is more difficult for some people than others (Perkins 2010; De La Bellacasa 2012; West et al. 2018). In that case, observing care practices might be the only way to understand their notions of care.

When nature becomes a professional environment, the relationship between professionals and nature becomes more complex. Beyond a recreational destination, nature also features livelihood. The system, power, and control are all concepts that come into play (Martin et al. 2015). Large-scale industries, such as industrial-level farming and fishing are designed to maximise the resource extraction and commodify natural elements as much as possible (Mincytė et al. 2025). Care in these contexts may no longer fit neatly within the common emotional dimensions.

Fishing is a profession where this care-extraction tension is visible. The magnitude of extraction coming from large-scale fishing is linked to environmental pressures, such as overfishing and resource depletion (FAO 2024). With the traditional notions of care, these outcomes are difficult to associate with caring practices.

The problem that this research identifies is that large-scale fishers are perceived as lacking care for the environment. They are instead perceived as being driven by purely economic incentives to optimise and increase fish capture and production (Pollnac 2001; Jimenez et al. 2019).

Research, however, shows that forms of care can still exist even within highly extractive industrial systems, such as mining, forestry, and farming (Arts et al.

2014b; Alarcon et al. 2020; Varfolomeeva 2021). Although these professions contribute to some extent to environmental harm, the literature identifies expressions of care in professionals' narratives and everyday practices (Oltean & Gabor 2021; Vigors et al. 2023). For example, industrial farmers adjust their practices to what they considered more responsible approaches, in order to become better farmers (Mincytė et al. 2025). Studies on extractive recreational activities, such as recreational hunting and fishing, further support the idea that performing an extractive practice (i.e. killing animals) can coexist with environmental stewardship (Oltean & Gabor 2021; Arlinghaus 2024; Shephard et al. 2024). For example, hunters express love for nature and an appreciation for wildlife, and consider themselves to perform a nurturing action for nature when hunting (Oltean & Gabor 2021).

The gap in literature is that despite this evidence that care exists within extractive industries, large-scale fishers remain mostly absent from such social research, even though they are key stakeholders in marine governance and operators across many fishing grounds. If other extractive industries can indeed be caring, then what might such care look like in industrial fishing?

The research question of this study asks: *how do large-scale fishers in Greece practice care for the sea?* As subquestion, this study asks: *why may observable forms of care be constrained in this context?* To answer these questions, I designed a qualitative study that focuses on how care emerges in fishers' practices over their explicit expression. Practices are analysed through the lens of Social Practice Theory, a framework that sees people's practices as a result of what they know, what they use, and how they make sense of their world.

Understanding how care is practiced within large-scale fishing communities is relevant both academically and socially. Fishers are highly relevant stakeholders in society given their important role in marine governance. Environmental communication studies can become a mean to give voice and explore how they relate to nature in a wider picture. The study is also academically relevant because it extends human-nature studies beyond their usual areas of work, and into new fields of research. Also, this study contributes to the care ethics field by supporting studying care through practices rather than words to reach what words alone cannot.

The thesis proceeds as follows: in chapter 2, I present how large-scale fishers are studied in literature, and in chapter 3 I present and analyse the theoretical framework. I proceed with the research design and methodological shift that set practice as my theoretical lens. Chapter 5 presents the analysis around the three elements of Social Practice Theory (competences, materials, and meanings), and finds the practices of care that emerge through them. The analysis then explores the societal and structural conditions that may constrain care. The findings are discussed in Chapter 6 alongside the personal reflections and research limitations.

2. Background

This chapter builds the conceptual and empirical background of this study. It introduces care as relational value, and views how large-scale fishers are represented in science and public discourse. It then addresses the asymmetrical comparison of large-scale fishers with small-scale fishers and shows how existing methodological approaches are highly relevant to the perceptions of each group.

2.1 Care in human-nature relationships

For a long time, human-nature relationships were understood through two value perspectives; intrinsic value, in which nature is valued for its own sake, and instrumental value, in which nature is valued for its usefulness to humans (Himes & Muraca 2018). These two have created a dichotomy in which people either use nature (for its instrumental value) or protect it (for its intrinsic value) (Himes & Muraca 2018; Chapman & Deplazes-Zemp 2024). The binary was criticized because it could not capture the full dimension of human-nature relationships. A third category later emerged in this debate, known as relational values (Himes & Muraca 2018; West et al. 2018; Chapman & Deplazes-Zemp 2024).

Relational values are the ways in which people understand their relationships to nature based on their personalities and the cultures they grew up in, and capture both instrumental and non-instrumental values. Relational values emerge through lived experiences than concious selection, and are mostly embedded in people's lives (De La Bellacasa 2012; Himes & Muraca 2018; West et al. 2018). Scholars argue that a central relational value is care for nature (De La Bellacasa 2012; Jax et al. 2018; West et al. 2018).

Care is not uniform and is not expressed in a single form. In the field of care ethics, care has different traditions (ways of caring), with Tronto (1993) being a central researcher who analysed them. She starts from the emotional state of care, the *caring about*. Humans feel good when they are surrounded by nature (Keniger et al. 2013; Himes & Muraca 2018; Whitburn et al. 2020), and also vice-versa; their wellbeing increases when giving to nature (Jax et al. 2018). Care for nature and positive emotions are most of the time linked (Penn & Mysterud 2017). Less-positive emotions, such as eco-anxiety and concern about the state of nature are equally important for someone to experience *caring about* nature (Moriggi et al. 2020). Regardless of being positive or negative, emotions are strong forces that make people act (Perkins 2010; Seymour & Connelly 2023).

Action is the second and most relevant tradition of care for this study. *Caring for* nature refers to concrete actions. I reiterate the definition of care used in the introduction that defines care as "everything we do to maintain, continue and repair our "world" so that we can live in it as well as possible" (Tronto, 1993, p.103). Examples of care in practice include volunteering in beach clean-ups or advocating for animals' rights by avoiding meat consumption (Buttlar & Walther 2022).

Practices of care for nature are understood both as attitude and practice (Jax et al. 2018). Yet, words alone and the urge to care (to look after nature) are not sufficient to perform care; Care becomes visible in practice, but requires capacity

and context to be enacted (Enqvist et al. 2018; West et al. 2018). Scholars of environmnetal stewardship address the need of capacity of the carer to engage in caring actions within the system they are part of (Enqvist et al. 2018; West et al. 2018). For example, vine farmers who transitioned to more organic and biodynamic land treatments shifted the style of vine production only because it could remain economically viable (Alarcon et al. 2020). Therefore the system in which practices occur contributes to how these practices of care will be performed.

2.2 Large-scale fishers evolution and representation

Fishers represent a vast professional community worldwide, with almost half a billion people in the industry (FAO 2024). From the beginning of the 20th century and after WWII, boats became larger with advanced technology (Srinivasan et al. 2012). The developments increased the capture capacity and made vessels travel faster in deeper waters (Srinivasan et al. 2012). Fishing became more extensive and trawlers gained popularity. Eventually they dominated the fishing market, and created a controversy still present today (Willer et al. 2022).

Bottom trawling operates by capturing fish in large nets dragged along the sea floor. This practice causes ecological damage in multiple ways; Firstly, fish are not selectively captured, something that imbalances their populations and destabilizes the food web (Maya-Jariego et al. 2017; Jimenez et al. 2019). The lack of targeted fish selection is also linked to overfishing, known as the condition where captured fish is more than the calculated maximum to maintain sustainable populations (Mantziaris et al. 2021). The ecological damage is not only apparent in the food web. Two other big issues are the by-catch animals, which are non-target, often endangered marine mammals in the nets of trawlers (Kennelly & Broadhurst 2021), and the alteration of the biochemistry of sediments where nets are dragged (Bueno-Pardo et al. 2017). Ecological damage also occurs above sea level, from the high concentration of carbon emissions of the fishing vessels, as well as the carbon release from the sediments in the sea floor (Hilborn et al. 2023).

The controversy extends to the social impacts of large-scale fishing; They are considered socially unjust, both for reducing access to fish markets and sea grounds from small-scale fishers (Guyader et al. 2013; Chuenpagdee & Jentoft 2018; Lloret et al. 2018; Jimenez et al. 2019; Willett et al. 2019; Zeller & Pauly 2019; Garcia Lozano et al. 2022), but also for the poor working conditions on the vessels (Bennett et al. 2015). Finally, even though large-scale fishing is well-regulated worldwide (Voyer et al. 2017), illegal, unreported, and unregulated fishing (IUU) is found in high levels (Willer et al. 2022).

The public is concerned over these impacts of large-scale fishing in the environment and society. Information comes from multiple sources, including policy documents, NGO campaigns, and artistic representations, such as films e.g. the Italian film *La Terra Trema* (1948), that amplify the destructive aspect of large-scale fishers in public narratives (Warner 2019; Arias Schreiber & Gillette 2021; Willer et al. 2022; Stahl & Hinkel 2025).

Scientific findings are another major source of information that constructs the profile of large-scale fishers and may influence the public perception. In scientific

journals, large-scale fishers are given characterisations such as “powerful, extractive, external” (Zeller & Pauly 2019; March & Failler 2022), “capital driven” (Garavito-Bermúdez & Boonstra 2023) , “invaders” (Maya-Jariego et al. 2017), and overall “destructive” (Willer et al. 2022). Such data sources fuel the polarization of the public in this regard (Willer et al. 2022; Hilborn et al. 2023). In the following section I show how the methodology researches follow may influences these outcomes.

2.3 Studying Large-scale fishers

Large-scale fishers are the focus of a substantial portion of existing research, with published studies about them exceeding by far those of small-scale (Lloret et al. 2018). The headlines feature topics such as how to have optimised engines (Zhao et al. 2021), avoid occupational injuries (Chauvin et al. 2017; Nørgaard Remmen et al. 2021; Elegbede et al. 2025; Guillot-Wright et al. 2025), and increase economic performance (Mantziaris et al. 2025; Tsirimokos et al. 2025). They are also studied as actors in marine governance and decision making (Liu 2021; FAO 2023). Large-scale fishers’ contribution to society is undeniable, especially in terms of food and job provision (Liu 2021; Farquhar et al. 2024). In this literature, large-scale fishers appear more as functional units within systems than as participants in relationships.

In other words, social science is not as active with this group as with others, such as small-scale fishers. The latter are studied as social beings with knowledge and experiences worth listening to (Bender et al. 2014; Lloret et al. 2018; Jimenez et al. 2019; Smith & Basurto 2019; Loch & Riechers 2021). Small scale fishers’ perceptions and role in communities are central topics in research about them, in which they have a primary position (Guyader et al. 2013; Deb 2018; Smith & Basurto 2019; Jentoft 2020; Lewin et al. 2023).

An asymmetry exists within the profession itself; small-scale fishers are considered related to the sea in more profound ways than large-scale fishers (Guyader et al. 2013; Lewin et al. 2023). This outcome is likely a result of the chosen methodologies that scientists have used for each group. Small-scale fishers are commonly studied through ethnographies with interviews (Bender et al. 2014; Chavez Carrillo et al. 2019; Stoll et al. 2023), participant observations, joined long fieldworks (Deb 2018), and personal research diaries (Loch & Riechers 2021). Large-scale fishers on the other hand are studied mostly through metrics, technical models, and indicators (Grati et al. 2025). However important and real the findings are, I suggest here that these findings are also shaped by the methods that researchers apply: if a researcher does not use the tools to highlight experience, emotion and connection, they will not find them either.

What remains overlooked in this literature is the relational dimensions of large-scale fishing. From the contribution of care theory to the understanding of how extractive industries care for nature, I have designed a study that does that for the context of large-scale fishing in Greece. Some comparative studies have attempted to find which values motivate small- and large-scale fishers to fish, such as in the case of the comparative study of Cepić et al. (2026). What this study found is that large-scale were more profit-driven than small-scale. Tradition and fulfilment were not as significant factors to be fishing, “reinforcing that

economic rationality dominates decision-making in large-scale operations" (Cepić et al. 2026). The issue with these findings is that economic motivations among large-scale fishers are important, but should not be interpreted alone as evidence of a lack of care. Second, self-reported questionnaires may not be well suited to capture embedded and practice-based forms of care. My study argues that discursive methods are insufficient for the large-scale fishers group, and that practice-based methodologies are more appropriate for understanding what caring for nature means for them.

3. Theoretical Framework

The literature reviewed on the previous chapter reveal two observations that guided me to my chosen theoretical approach. First, the way a group is studied influences what is found about them. Large-scale fishers' relationship with nature has received limited attention from social science (Willer et al. 2022). A framework that allowes them to be studied as social beings is therefore necessary. Second, studies of extractive professions show that care is enacted through interaction and routines rather than expressed through emotional or discursive language (Alarcon et al. 2020).

These observations lead to a framework that locates care in practice rather than in discourse. This framework is Social Practice Theory.

Social Practice Theory understands practices as a set of routinised activities through which practitioners enact their relationship with the world (Schatzki 1996; Reckwitz 2002; Shove et al. 2012). The focus is neither on individual values, nor on isolated behaviours (Batel et al. 2016), but on practices as socially embedded phenomena. Practices emerge from the social context in which they operate (Schatzki 1996; Ariztía 2017). Systematic, historical, and cultural conditions form the foundation of practices (Reckwitz 2002; Batel et al. 2016), while individuals are seen as carriers and reproducers of these practices (Spaargaren 2011). People are socialised into practices and perform them as part of their everyday life, often without conciously choosing them (Hargreaves 2011; Spaargaren 2011).

This makes Social Practice Theory suitable for this study. It allows care to become visible in what practitioners do, even when they don't realise it or don't articulate it verbally.

I also align my choice of this framework with the concept of environmental stewardship introduced in the background chapter. Researchers argue that care for nature cannot rely only on good intentions and emotional attachment (Enqvist et al. 2018). It requires knowledge of the environment to be cared for, and the agency to act upon that knowledge (Enqvist et al. 2018). This three-part structure of stewardship (caring urge, knowledge, agency) closely corresponds to Social Practice Theory's three elements of practice, that are meanings (the values that motivate practices), competences (the knowledge to make practices possible), and materials (the tools through which practice is enacted) (Shove et al. 2012).

3.1 Social Practice Theory

Social Practice Theory identifies three elements that together constitute a practice; competences, materials, and meanings (Shove et al. 2012). These elements are interconnected and shouldn't be studied in isolation, as practices can only be understood through their interaction (Shove et al. 2012).

3.1.1 Competences

Competences refer to the skills and know-how of the practices; the knowledge required to perform them (Shove et al. 2012). Knowledge in Social Practice

Theory is not treated as information that can simply be taken and shared through reading a book chapter.

Knowledge is a central aspect of competences that is enacted through experience. People act on their knowledge, often without being able to fully verbalise it (Arts et al. 2014a; Fratsea & Papadopoulos 2022). This is what researchers call tacit knowledge, a form of knowledge that comprises the skills, insights, and intuitions built through experience and repetition (Maderson 2023).

Tacit knowledge is closely related to local ecological knowledge (LEK), which is developed through observation, participation, and repetition, and often is transmitted across generations (Bender et al. 2014; Jentoft 2020; Okui et al. 2021; Silvano et al. 2023). Studies on small-scale fishers have found several cases where tacit knowledge was identified, such as in predicting the ecological cycles, and in mentally mapping the sea (Smith & Basurto 2019; Loch & Riechers 2021; Fratsea & Papadopoulos 2022). Similar forms of tacit and environmental knowledge are expected to be identified in large-scale fishers as well.

3.1.2 Materials

Materials refer to the physical objects and tools that make practices possible (Shove et al. 2012; Arts et al. 2014b). In Social Practice Theory, objects are not passive, but are there to shape the medium and conditions under which practices are performed (Reckwitz 2002). The relationship between body, mind, and object is essential, as practitioners must be able to engage with these materials in order to carry out the practice. (Reckwitz 2002).

3.1.3 Meanings

Meanings refer to the why a practice is meaningful for the practitioner to do. They include the shared understandings of the reality (i.e. norms), the emotions, and purposes that motivate a practice (Shove et al. 2012). To do a practice, the practitioner must feel that the practice matters (it is worth doing and is culturally recognizable). Although meanings are experienced individually, they are socially reinforced over time (Reckwitz 2002).

The way I will analyse meaning in this study is through the purpose fishers attach to their work, the emotions they express, the values they refer to, and the cultural norms that shape their practices.

4. Research design

This study follows a qualitative research design combining semi-structured interviews, visual material, and iterative analysis – the process of collecting and analysing data parallel to each other, allowing them to inform the next methodological steps (Kapiszewski et al. 2022). During the data collection, the research design evolved and led to a methodological shift from discourse-oriented to practice-oriented (see section 4.4).

This chapter presents the research worldview, my positionality as researcher and reflection on initial reflections, the process of data collection, methodological shift, and finally data analysis.

4.1 Research approach

With my research I seek to understand in depth how my group of interest (large-scale fishers) care for their world in which they work. The meanings fishers attribute to nature emerge from their lived experiences and are therefore inherently subjective. My way of approaching them focuses on understanding as much as possible how fishers make sense of their world. This position aligns with the constructivist worldview (Moon & Blackman 2014; Creswell & Creswell 2018), which assumes meanings are not simply "out there", but rather are constructed through interactions between individuals and their social context (Creswell & Creswell 2018).

To access participants' realities, I relied on carefully asking and listening to their versions of truth, while remaining attentive to the context. Semi-structured, open-ended interviews provided the necessary space and time for participants to narrate their experiences in their own ways. They permitted several topics to surface in forms that might have not been with predetermined questions. This format allowed participants to freely distribute the time of the interview as they wanted in order to tell their stories.

Throughout this process, I remain aware of my role as researcher. I am aware that my presence has shaped the interaction in real time, and my background has influenced how I interpreted participants' experiences (Creswell & Creswell 2018). Knowing that, I actively tried to stay neutral in both the data collection and interpretation and rely my findings on the framework rather than my own personal interpretation.

4.2 Motivation and primary reflection

I have chosen to conduct my study in Greece, where the fishing community is particularly strong. It occupies 1/5 of the European fleet (European Commission. Joint Research Centre. & European Commission. Scientific, Technical and Economic Committee for Fisheries. 2022), with almost 14k vessels registered (Tzanatos et al. 2020).

Fishing in Greece is not a new phenomenon. Plato already mentions the embeddedness of fishing in Greek culture in his book "Polis" (Lytle 2012). Greece's identity and cultural heritage are associated with fishing, given the huge

coastline and numerous islands (Sintori et al. 2023). In the 1950s bottom trawlers arrived in Greece, and by the end of the 20th century, many vessels were advanced in these moto-machines to develop financially and also meet the demands of fish consumption (Alevyzakis 2025).

I have chosen study fishers from Northern Greece. In particular, I was interested in large-scale fishers who are active in the northern Aegean Sea. The most active gulfs are the Thermaic, Strymonian, and the gulfs of Chalkidiki, which are also attached to eachother. I have chosen this location for three reasons: a) this area comprises the most active fish nesting spot in Greece due to the warm and protected bays, perfect for spawning, b) Mihaniona hosts the busiest fish market in Greece and has been the largest fishing hub for decades, and c) I am personally connected to this location because it is the region I grew up.

After the anecdote I heard during the beach walk, I became more interested in understanding this group. What I knew at that point was that fishers and I had some things in common, i.e. we come from the same part of Greece, speak the same language and have similar upbringing. Speaking the same language was very important because we could understand each others' expression and access each other's humour, idioms, and emotions. Yet, our differences were more, and fundamental. First of all, gender. In my perception, fishers were traditionally masculine figures who might not see a woman equally as a man. Then, the other crucial difference was our background. I come from an academic background related to ecology. Very often ecologists (and related professions) come in tension and controversies with fishers for their environmental impact. Based on this established dynamic, I was cautious that they wouldn't want to participate to my research.

My initial assumption about not being taken seriously was disproved. My participants did not display any form of devaluation towards me. They treated me with respect and attention. Although our gender difference didn't affect our dynamic during the interview, the gender parameter was important in their ways of expressing themselves. I talk about this more in the chapter about constrains of care (see chapter 5.3.2).

What my intuition was correct was the hesitation of fishers to participate in the research. Interviews were hard to book and only a few for a long time. As expected, entering to the world of large-scale fishers was challenging. Not only finding the contacts of fishers, but also convincing them to participate in the study. In almost every interview, the initial interaction was marked by strong mistrust and skepticism for my motivations. The first question the fishers asked me was whether I considered trawlers to be destructive machines, and they appeared to have a set of arguments prepared for any opposing view. As some of them mentioned later, their representation in public narratives has made them more selective with the interactions in which they choose to engage.

This initial position of the fishers made me work towards establishing a safe and trusting space for our discussions. This was a necessary step to enable more open and expressive communication. On my behalf, I remained honest and transparent, and made explicit the motivation of this study were not to expose environmentally destructive practices. During the interview, I avoided strong disagreements and criticism of their practices and meanings, regardless of whether I supported them or not. This process of trust-building improved the interviews

significantly. The most analytically rich moments appeared in the second half of each conversation, once fishers understood that my intentions were not accusatory.

4.3 Data collection

I interviewed eleven skippers of large-scale vessels; nine of them with 1-on-1 interview and the last two in group setting. To ensure ethical standards, I obtained informed consent from all participants. I also ensured data protection throughout the analysis by anonymising the participants and presenting them in a different order from that in which they were interviewed. I chose skippers (known also as captains) as my study group of large-scale fishers. Skippers are the people on charge, responsible for navigating the vessel, finding fishing grounds, directing the crew, and overseeing the hauling of gear. In my case skippers were also the owners of the vessels (5 trawlers and 6 purse seines in total), which gave them the full agency of their practices. This is why they were selected as the study group, since they hold the full decision-making authority over their fishing practices.

The age of the interviewed fishers ranged from 31 to 92 years. Most of the interviews were in person, held in cafes and taverns, and lasted on average one hour and a half. Fishers chose themselves the location of the interview. They selected cafes and taverns (rather than their vessels) as more neutral arrangement to prevent distractions from work. As some fishers were on long trips in the ocean, I called them instead. The interviewees were booked from snowball sampling, which is when initial participants recruit people from their social networks.

I also met with a group of fishers. This group setting was not scheduled, and rather spontaneous. I was invited to a gathering by fishers themselves who heard about my research by word of mouth. As I will explain later in the analysis, this was the only opportunity to observe fishers in real life, seeing them interacting with fellow fishers and listening to the topics they commonly discuss. Since I could not ask them questions from the interview guide during the group setting, instead of treating data as interview material, I mostly focus on how fishers performed when surrounded by fellow fishers.

4.4 Methodological shift

At the beginning of this project, my way of answering the research question (how care exists in large scale fishers) was through listening to my participants talking about care, affection to nature, concern and other emotions.

After the first four interviews however, my data was sufficient to observe certain trends that did not meet my expectations. Fishers were more comfortable talking about the difficulties of the professions that expressing emotions about the sea. Not that they never expressed caring language, but from the 1.5 hour of each interview, I could only retrieve only a few statements. Fishers complained 90% of the time about the costs of fuels and dangers of fishing, and only 10% of the interview was valuable to answer my question.

Initially, I doubted the relevance of my research for this group and context. During an interview, I asked a fisher about his favourite moments in the day, only

to hear him say: “how do you expect me to have a good moment when the gas price has rosen that much?”. Only later I realised that fishers don’t speak about care not because they don’t have any, but because they don’t talk as much with emotional and affectionate language. I was asking my participants to do something they are not used to - and potentially not comfortable doing.

I used this discursive resistance as information that led to an interative redesign of the research methodology. I needed to change the way I search for care, and I did so by shifting the focus from discourse-oriented analysis to practice-oriented. This was the turning point that I implemented the lens of Social Practice Theory as my theoretical lens for this study. Together with the theoretical framework, I adjusted my interview guide to more practices-relevant.

I identify a risk here; some practices that reveal care may be performed on a daily basis, but are done un-conciously, as part of routine. If I would join the voyages, I could have observed them, but now I rely on second-hand experiences of fishers to state them. To overcome this discursive limitation, I incorporated non-discursive materials (images) into the analysis as complementary data.

Visual methodologies are often used when speech is not sufficient to communicate and discuss the object of study (Wang & Burris 1997). It also evoke different kind of knowledge than by the interviews alone (Joosse & Marshall 2020; Mellegård & Boonstra 2020). Images, specifically self-selected photographs provide insights of people’s everyday lives, history, and past (Crang & Cook 2007) and act as freeze-framed moments of their work. Photographs in particular (this study’s visual material) reveal what the photographer considers important and worth showing (Mellegård & Boonstra 2020).

The power of images was already present in one of my exploratory interviews. Before even incorporating this methodology, my eldest participant wanted to walk me through the pictures that were displayed in the elderly community space (ΚΑΠΗ). He and his fellows were captured in a photograph from the 70s doing maintenance activities on the boat.

I started asking the participants to share with me self-captured images taken during work. I gave them the freedom to choose pictures they wanted, avoiding any manipulation on their decisions. It is worth noting that I was asking for pictures at the end of each interview, giving them the agency to return to me with images only if they wanted to. Most fishers (8/11) returned with pictures, without however any explanation about the content and the reasoning behind choosing them. Those who did not provide images stated that they either did not have any available or were too busy and felt they had already contributed sufficiently to the study.

The two dominant ways of incorporating visual material in research are photovoice, which is action- and social change-oriented (Mannay 2016), and photo elicitation, in which images are used within interviews to facilitate and enhance the dialogue with the participant (Harper 2002). For this study, I recognise photo elicitation as a more suitable methodology, yet my shared images were neither discussed during the interviews, nor accompanied by participant explanation. To avoid intuitive reading, I analyse them based on a systemic interpretive framework (Rose 2013).

4.5 Data processing and analysis

The interviews were processed with Vibe, a transcribing tool, from Greek audio to document. After each transcription, I cross-checked the transcript and added comments, reflections from memory, and notes on emotional cues from the audio recordings. For example, I noted moments when fishers raised their voice, became more defensive, or used body language as a form of communication.

Themes emerged inductively from the interview material and were then organised deductively with the lens of Social Practice Theory (competences, materials, and meanings). This combination was useful to see data without restriction, but at the same time structure it for interpretation. My main platform for organising data in both stages was Microsoft Excel.

To process the images, I follow the guidelines of image analysis from Rose (2013), and study the images based on it’s content and composition, and also the context (who, where, why). I am aware that there was no explanation and reasoning from the participants who took the photos, which makes the images open to my subjective interpretation. I see the world differently from my participants, and analysing their photographs from my perspective can lead to misinterpretation. This is why the images remain complementary materials to avoid over- or underestimating meanings attached to them. All illustrations are published with the permission of the copyright holders.

5. Analysis

The goal of this chapter is to detect care in the practices of fishers. It begins with analysing the data through the three elements of Social Practice Theory. Then, these elements come together and reveal practices of care. In the third subsection, I focus on the reasons why care may be restricted.

5.1 Everyday fishing

5.1.1 Competences

A well-recognised competence among the participants is the skill of “reading” the sea. Fishers are able to interpret environmental signs such as clouds, sky colours, wind direction and speed, as forms of communication. This allows them to predict storms and understand fish movements. Fisher 2 shared two proverbs that encapsulate this knowledge: "Red sky at night, sailor's delight. Red sky in the morning, sailors take warning" and "A ring around the sun brings wind, a ring around the moon brings rain". These proverbs gather years of ecological observation of their surroundings. The same fisher also connected the abundance of fish with the arrival of certain birds, and predicted the severity of winter from the numbers of fruits of a specific tree.

Attentive observation developed knowledge on the ecological cycles, depths, temperatures, and fish rhythms. With this knowledge, they estimate and make predictions of the type and quantities of fish. As equally important skill is the resilience and ability to redirect routes when conditions change or fish stocks are lower than expected. This resilience makes them collaborate with the sea and become skilled in decision making.

Fishers discussed the physical endurance they require in order to fish. For example they talk about moments when cold air hits their face while they try organise fish with frozen hands. The physical difficulty of their profession was apparent in their shared images that depict hills of fish to store, and a variety of outdoors conditions (sun, warm clothes, night) in which they must perform (Fig.1).

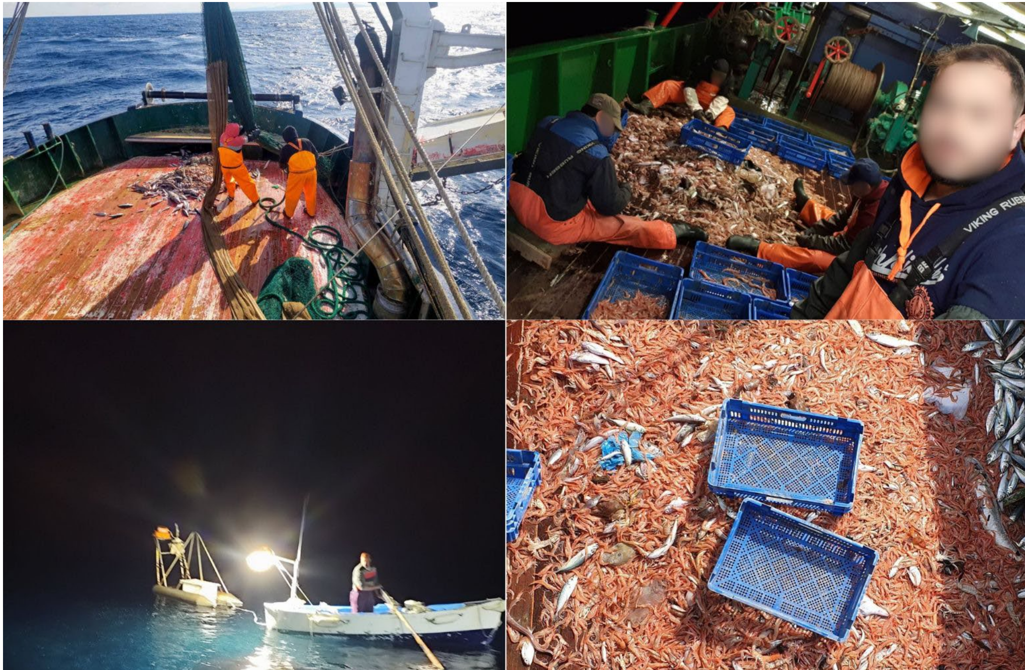

Figure 1. Moments of Large-scale fishing in action. Source: adapted from research participants' material.

Storms were rated as the most dangerous situation a fisher can go through. Taking the right decisions during a storm was a highly-valued and essential competence to ensure the safety of the crew, the boat, and of the fishers themselves. This competence was also the most demanding one, not only because of the harsh environmental conditions, but also because of the difficulty to navigate such a large vessel under pressure. Being a skipper requires constant attention, long and often sleep-deprived shifts, and the ability to judge when to push forward and when to stop. Skills like knowing how to mend nets and how to maintain the boat represent two practical competences that were visible in the images that fishers shared with me (Fig.2).

What all of these competences have in common is that they were not learned from books and fisher universities. Fathers and grandfathers introduced the practice of fishing empirically; through doing. Fisher 5 said "all we know is taught from the previous generation. My father learned from his own father, and later taught me", and also Fisher 10 said "my father has shown me the places I still fish today". For many participants this knowledge felt so deeply embedded that was inseparable from identity; "Fishing is part of my DNA" - F5, "if it wouldn't be on my DNA, I couldn't cope with the difficulty" – F6. This infusion of knowledge into identity is what was described earlier as tacit knowledge.

The following section analyses the materials that allow fishers to enact these competences and do the practices.

Figure 2. Left: A fisher fixing the net. Right: Boat under maintenance. Images retrieved from the fishers. Source: adapted from research participants' material.

5.1.2 Materials

In Social Practice Theory, materials are active mediators that make practices possible. Nets, engines, fish, and tools were all present in the participants' interviews. However, one object exceeded all others in analytical importance. That is the boat.

Every participant dedicated extensive time in talking about their boat, and the shared images also reflect this (Fig. 3). For fishers who otherwise struggled to talk about the sea, the boat was the only moment they easily expressed affection. What initially seemed as attachment to an object, on closer analysis showed that the boat is the material through which every competence described in the previous section is enacted. Without it, ecological knowledge cannot be applied, storms cannot be navigated, fishing grounds cannot be reached. The boat is the condition that makes the entire fishing possible.

Fishers spend the majority of their working lives on their boats, sleeping, eating, and working in that space. The boat becomes, as Fisher 7 put it, "our companion, our literal home". Fishers 8 even describes selling his boat "a murder". This affection makes fishers perform forms of care for the boat. Fisher 7 stated that he can detect where his boat "feels pain", and fix it. They have created a deep connection with their "companion" to understand what it needs.

The boat also carries history. Today's vessels share the architecture with the traditional wooden boats of the past. More importantly, boats in this community of fishers (i.e. the town of Mihaniona) are carriers of collective memory. Fisher 5 narrated a story of how, during the forced and violent migration of Greeks from Asia Minor (today's Turkey) in the early twentieth century (1922), fishing boats became the carriers of the population from entire villages. "Thankfully our

families had their boats and they escaped in time" Fisher 5 said. The boat in this case is a carrier of collective trauma and cultural continuity.

Fishers' attachment to their boats is because of everything that the boat makes possible. The boat mediates fishers' relationship to the sea, so caring for the boat means caring for what the boat makes possible. I show how materials are connected to skills (i.e. navigation and maintenance of the boat) and now I will proceed with the meanings that fishers give to the sea and fishing.

Figure 3. Four images of the participants' embarked boats by the port. Source: adapted from research participants' material.

5.1.3 Meanings

Knowing how to steer a boat won't make fishers do it unless there is a motivation behind it. Meanings bring together competences and materials and add the purpose and reasoning that makes fishing worth doing. I detected diverse meanings fishers attached to the sea in my data. I present them through four dimensions: the purposes that motivate fishing ("I fish for…"), the emotions it generates ("Fishing makes me feel…"), the values fishers attribute to the sea ("The sea commands…"), and the norms that govern how fishing should be done ("Proper fishing should…").

The most immediate purpose of fishing is for livelihood. Fishers fish, and exchange fish for money to sustain their families. Earlier in times, fishing was a secure path to prosperity and motivated some of the participants to enter and stay in this profession. They argue that fishing is not a recreation, as would be hunting wild animals. They fish for survival, and this in itself is a the motivation that justifies killing fish.

Fishers understand their role as providers for public good. They describe fish as the healthiest protein source available, and perceive themselves as

contributions to urban health. They describe their social role as important as doctors and teachers (F3). The purpose of fishing is therefore to provide to the community (including themselves) fresh and high-quality food. This is reflected in the images that depict meals of freshly caught seafood on the boat (Fig.4). Beyond providing food, they understand their contribution to community in terms of job creation and leaders of community celebrations. The feast of Saint Nicholas (protector of the sea) and the light festival (Fig.5) started as celebrations in fishers circles that have now emerged into central town festivals. Regarding job creation, large-scale fishing has generated employment over the years both directly (e.g., boat crews and vessel maintenance) and indirectly (e.g., port workers, drivers, and fish market staff).

Figure 4. Images from fishers's food and drinks on the boat, and the togetherness in eating. Source: adapted from research participants' material.

We now turn to how fishing makes the participants feel. Here I have collected the registered emotions throughout the interviews. Across all participants, pride was universal and most frequently expressed. There was pride in mastering this physically demanding profession, pride in the boats and the significance they carry, and pride in themselves for carrying the fishing heritage. For example, Fisher 1 described sorting fish with frozen hands in cold air as a competence he is proud of. Fisher 3 often visits and admires his own boat, as well as others' boats on the port, which he describes them as being built with "tears and bood". Fisher 2, the older participant, proudly walked me through the photographs displayed on the walls of the elderly community centre, pointing out images of himself with his newly completed purse sein, one of the first large-scale vessels in Greece.

Another emotion was pleasure. Although only registered by a few participants, they described the joy and sense of freedom and autonomy that they could feel through fishing. As Fisher 11 states: "I am flying like a bird". The autonomy in

particular is a central reason that has brought them back to fishing from other careers (i.e. military, tourism and cruises, and university) and better-paid jobs.

Some fishers used romantic register to describe the sea. In Greek, the sea is grammatically feminine, and several participants referred to the sea as “her”, as a mesmerizing female (F11), as a life-giving woman (F5, F10), and as a lover (“καψούρα”) (F6, F8).

Fishing is also carries sadness. Month-long trips at sea mean missing children's milestones and family life. Fisher 3’s young daughter asked him to pick her up from school to prove to her friends she indeed had a father. Fisher 10 also told me a story about his daughter that refused to visit the island that he spend most of his working life until she was nineteen years old. It was her unspoken protest at his absence. In both cases the fishers became slightly emotional before returning to the accepting statement: “that’s how it is”. They understand these long trips as crucial parts of being a fisher, even with the cost of being distant from their family.

Figure 5. A purse seine in the Stratonic gulf for the celebration of Virgin Mary during the Light Festival in January. Source: adapted from research participants’ material.

Meanings involve the set of values that fishers attach to the sea. As they describe, the values are mostly inherited from their fathers and still accompany them till this day. For example, the places Fisher 10 still fishes today are the places his father showed him.

Participants perceive the sea as an entity that sets the terms and commands respect and humility. Fishers must respect their limits and collaborate with the sea based on the signs they receive (connected to competences). They should not act with arrogance and aim to constantly extract from it. The following statement is an ethical position from a fisher who aknowledges the sea’s power and does not act with arrogance. He reads the signs, and stops when the sea tells him to stop.

“If you try to look into the sea, it gives you back your own reflection. It is never fully clear, never fully yours to control”. – Fisher 10

Participants recognise the sea as a superior force that can’t be controlled, regardless of how much knowledge or equipment a fisher may possess. The sea’s power is perceived as so great that fishers often seek divine assistance to help them confront it. Fisher 3 states “We pray to God to protect our machines from shutting during the storm” and “I used to call my sister to light a candle in the church for me because I was facing storms regularly”. In Greek culture, Orthodox Christianity plays an important role and lighting a candle is commonly understood as a gesture seeking protection from danger. In a moment of fear, F6 made a vow to the Virgin Mary that if he survived the storm with her help, he would name his daughter Mary in her honour”. He later fulfilled this vow.

A value that did not emerge from their discourse but from their shared images was the aesthetic imporance of the sea. Fishers have shared moments of sunrises and sunsets as shown in Fig. 6 (see Appendix 1 for additional images), elements that contribute to the set of values about the sea. Following composition and context framework (Rose 2013), the images show a perspective of the skipper from the steering position, capturing colourful skies, calm sea, birds and horizon, all excluding the fishing gear. This context can link the sea to beauty, pleasure, and calmness.

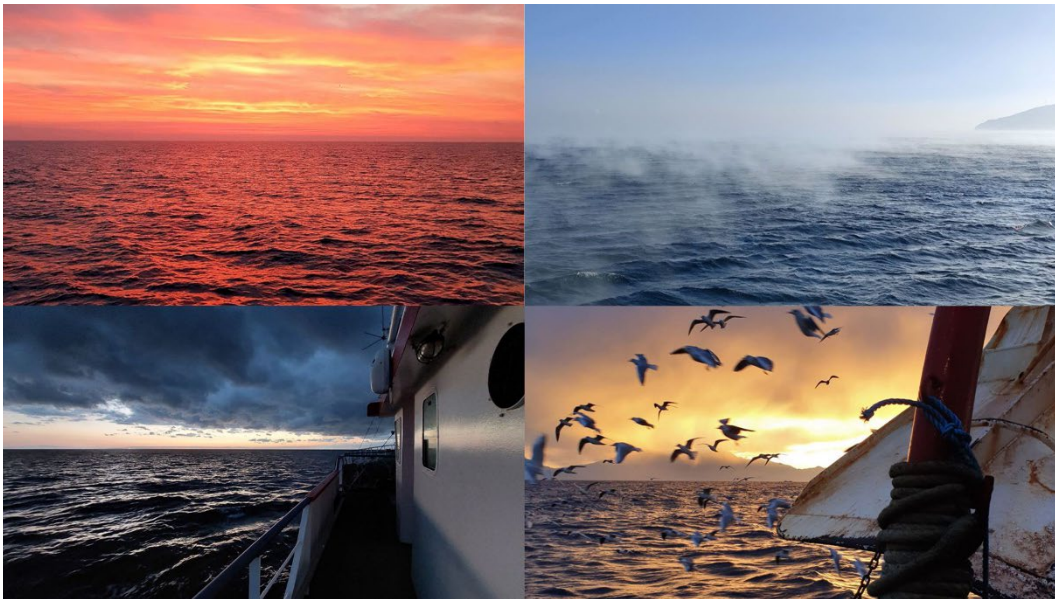

Figure 6. Images of the sea and sky from the boat, captured by fishers. Source: adapted from research participants’ material.

Fishers shared a common understanding about how the sea must be treated. They used an agriculture analogy to explain; In this analogy, the sea represents a farmland. The same way a tractor mixes the soil of the farmland to release its nutrients, the trawler mixes the sea-bed and releases trapped nutrients stored in the deeper sediment levels. Fishers perceive this occasional disturbance as beneficial

and required for the (re)productivity of the fish. It's their responsibility, as they say, to maintain the marine farmland.

This is only one way of how fishers perceive fishing correctly. There are other unspoken rules on how fishing shall be done. One of them becomes clear through a contrast. Corporate fishing is large-scale fishing with employees on scheduled shifts and no prior family-connection to the sea. The participants consider corporate fishers to be run without the necessary values and principles. They frame it as if corporate logic will replace the fishers' ethos. Fisher 5 says: "Companies are cold. They don't see fishing the way we do. We go in the sea and remember our grandfather". For the participants, proper fishing means following the traditional path of families, something that companies that depend on guides and technology clearly do not do.

Continuing from this theme, excessive use of technology is preceived as a potential threat because it by-passes the competence-based understanding of the sea. When navigation relies primarily on instruments rather than on reading the sky and environmental cues, fishers suggest that experiential knowledge of the sea becomes less necessary. The risk they identify is that access to technological means may attract new members into the profession, but would practice fishing in a fundamentally different way, because they are not guided by the same embodied knowledge and values.

The exploration of meanings explains why fishing is worth doing, how it should be done, and who is considered a proper fisher. Fishing is a way of life that extends beyond simply livelihood. Purposes, emotions, and values are all meanings that participants attach to fishing. Together with the competences and materials explained before, I proceed to the next chapter that brings them together into practices of care for nature.

5.2 Care in fishers practices

In this section I show how the elements analysed before come together in observable practices that reveal care, even though the word care was barely used explicitly. I present the practices of care into protecting, caring for community, advocating and educating.

Care initially appears as a necessity. Fishing can only happen if the sea is not depleted. Sustaining the ecosystem is essential for fishers to continue working. So, sustaining the sea is not separable from sustaining themselves. Through their knowledge on ecosystem functioning, access to the sea with the boat, and sense of responsibility, they practice fishing in ways that sustain the marine environment.

They practice care through protecting. After many years of attentive ecosystem observation and decoding environmental signals, fishers combine ecological knowledge, tools, and value of being stewards of the sea, and act towards protecting it. Specifically, they stop fishing during the spawning period of fish. If they still need to fish during that period, they use their adaptive competences and avoid areas where juvenile fish is expected to be found. Also, they have increased the size of the net mesh so that juvenile fish can escape.

Based on their understanding, the sea requires fishing activity in order to remain healthy. Participants made the analogy with agriculture, describing the sea as a form of "farm" that needs trawlers to "cultivate" it and help release nutrients

from the seabed. In this framing, fishers construct a narrative of care around a practice that is often considered environmentally damaging in scientific literature. Rather than understanding themselves as extractors, they position themselves as cultivators and responsible “farmers” of the sea. Whether or not this interpretation is in line with scientific understanding of ecological impact, the practice is nevertheless framed by participants as caring as it is guided by values of responsibility, and competences of experiential knowledge of how to “maintain” the marine environment. It also relies on having the appropriate materials to do so. In this sense, care is not defined in opposition to extraction, but is constructed through an alternative moral and practical logic of cultivation.

Caring is found in practices beyond the sea. Fishers fish for the community, and this is seen in the way they perceive themselves; as providers equivalent to doctors and teachers. Fishers care for the community through providing freshly caught seafood. They put together their skills and infrastructures to go on regular long trips in the ocean and deliver fresh fish. This caring contribution is what counteracts the sadness they confront when they must sacrifice family moments to be at the sea. This suggests that fishing practice is driven by more than profit. Their self-perception of being providers to society makes the practice of feeling a vocation, often at the expense of the fishers themselves.

Advocacy is another practice of care that emerges through the Social Practice Theory elements. Fishers possess a set of ecological knowledge from their observation and transmitted experiences, and values through which the sea must be respected and not over-pressured. These values are not reflected in many policies. This is why fishers become active advocates and fight for laws that represent how they think the sea shall be managed. Four of my participants are active members in fisher unions, two of which have chair-roles, two are general secretaries, and one has also been representative of Greek fishers in the European Union. The laws they push for, aim to prohibit fishing during reproductive periods. This practice reveals care because the fishers push for laws that will restrict their available time to be fishing, bearing the cost of losing profit.

Care practices in society are also observable in two more incidents. Both are related to education. Fishers consider their knowledge and feelings that the sea generates worth sharing with others. This is why two of my participants voluntarily visit public primary schools and give informal lectures on marine ecology. The other form of education is through engaging in social media. Fisher 10 uploads regularly on facebook the catch of the day. As he added during the interview, his aim with this practice is to educate people about their food choices. He focuses on the concept of traeceability, the practice of knowing the origins of the food we are consuming (Moysiadis et al. 2023; Charlebois et al. 2024). Fisher 10 continued by saying that consumers are the ones to drive the market and often demand fish out of season. With his daily uploads he practices care both for the society, and also for the marine world. The response of consumers has been very positive; The fisher mentioned that an old man texts him regularly asking for pictures to show his grandson what they will have for dinner on that day. His practice of care is accepted and reinforced.

What the practices in this chapter share is that most of them was not annotated by fishers as forms of care. Feeding the community, stopping during spawning season, advocating for marine protection, teaching children about food origins

were all described as normal parts of fishing and as obvious responsibilities. These are things a large-scale fisher in Greece simply does. Fishers enact care in their practices that are formed from what they know, what they use and what motivates them.

5.3 Conditions that constrain care

Large-scale fishers enact care through several practices, as the previous section showed. Yet, what they publicly known for is environmentally damage. Social Practice Theory offers an explanation for this gap. It shifts the attention from individual practitioners toward the systems, norms and the practices themselves that shape the behaviour of the actor (Schatzki 1996).

This has two important implications for this study. First, when fishers act in ways that appear environmentally damaging and economically rational, this should not be read as evidence that they don't care. It may reflect the structural conditions of a practice that constrain what is possible. Similarly, when fishers do not explicitly talk about care, that should not lead to conclusions that are careless and indifferent. It may reflect cultural norms that define what can be said and what not.

Practitioners are understood as carriers of practices; as people through whom practices are performed and reproduced, with conditions that are designed for them (Hargreaves 2011; Nash et al. 2017). Therefore in this section I explore these systemic conditions and norms that suppress practices of care and also restrict how this care can be expressed. This chapters answers the subquestion of the study that asks why observable forms of care are constrained.

Although my analysis is based on Social Practice Theory, I also include personal understanding from the real-time interractions with participants as well as insights from gender theories, which are further elaborated in the discussion chapter.

5.3.1 Systemic constrains

> A recreational fisher is the happiest fisher. A small-scale fisher, less- but still happy. Us, large-scale fishers, with all these costs, vessels, crew responsibility and risks, how can we still be happy?" – Fisher 8.

This question names a real condition; large-scale fishing cannot always be practiced in the way that fishers would choose. The system in which fishing operates both prevent them from acting as they want, and also impose pressures that override fishers' intentions. This forces them into practices that contradict their own values. Fisher 1 provided a clear example; he knows that small fish are essential for sustaining fish populations, and that sustaining those populations is essential for fishing tomorrow. Therefore, to keep them alive, he uses larger net mesh to let them through. However, as he admits, when in financial pressure, he uses the denser mesh and catches the small fish anyway. He justifies his action as a response to the substantial costs and responsibilities, but he admits there is no pride in this action.

The absense or pride in this admission, or else the guilt for going against his morals can be itself an evidence of care. A person cannot feel guilt about harming something they don't care about. The finding of this situation is that care exists even when the practices contradict them.

Fisher 1 suppress his own perception on how careful fishing should be done and conform to structural practices. As he says; "I'm not going to be the hero" because for him the structural conditions leave no alternative. The participants perceive their actions as a result of being forced to illegality by the system. Fishing practices go beyond the individual fisher and locate fishing in a wider web of systemic practices that do always align the perceived proper ways of fishing.

The system constrain what fishers can do. The system also constrains what fishers can say. Systemic pressures such as the raising costs were one of the most discussed topics during the interviews. Care instead was not. In the next section I analyse how the topics large-scale fishers choose to speak about and the way they talk limits the expression of care.

5.3.2 Expression constrains

Fishers talk with ease about hardship, both physical and structural. The cold air, frozen hands, and sleepless shifts were expressed with pride rather than complaint. Hardship was also reflected in the images they have shared with me (Fig 1). The same conditions that make it brutal make it also meaningful and surviving the hardship makes them competent.

In the group setting, speaking of hardship became more obvious. Hardship was fishers' shared language that confirm their worth. When one fisher described fishing as easy, the other one immediately corrected him naming the reasons why fishing is actually hard, restoring the credibility of large-scale fishers in the conversation.

Fishers used language of hardship to also express their way of perceiving the sea. They use violent metaphors such as the sea as sickness, as an obsession, and as a drug. They also used heroic narratives in the way they were narrating a story. For example, they were framing themselves as heroes who fought against storms in a battlefield (i.e. the sea) and saved their crew with their competences. Both these elements can be viewed as performances of masculine discourse. Even an affective emotion, such as the earlier depiction of the sea as a romantic lover, needed to be registered within the boundries of masculine language.

Social norms shape the ways in which large-scale fishers express themselves in two main ways: by limiting the use of affective language, and by translating emotional expression into more masculinised forms of speech. One fisher noted that during the interview he had expressed himself more openly than he would in his everyday professional or personal life. Immediately afterwards, he added: "Go on, call me an idiot," anticipating that I might ridicule this moment of vulnerability and thereby question his credibility. This reaction suggests that he perceives emotional expression as potentially risky within the social norms of large-scale fishing. Speaking with emotional language is not a reinforced practice in their community because it comes with the risk of losing credibility of their competences among peers.

Both the masculinity norms and systemic pressures make fishers act in a certain way that is perceived as lack of care, when in fact it might be a suppression of caring practices and a normative restriction of caring emotions.

6. Discussion

This study aimed to find how care is practiced in the context of large-scale fishing in Greece. It relied on Social Practice Theory framework as its theoretical lens to analyse how fishers' competences, materials and meanings come together to form practices of care.

Based on the interviews conducted and the interpretation of the data, the findings suggest that large-scale fishers do practice care through sustaining, protecting, advocating, educating, and providing to the community. The analysis showed that care is embedded in fishers' tacit environmental knowledge, in their relationships with the materials they use, and in their understandings and values regarding the sea. All of these elements contributes to practices that reveal care.

The data also indicate that large-scale fishers do not primarily express care through discourse. This realisation became apparent when the study moved beyond its initial discourse-dependant methodological approach and adopted a practice-based analysis, complemented by visual material.

The subquestion of this study was to understand why observable forms of care are constrained. My findings suggest that care is suppressed by the structural and cultural contexts within which practices take place.

6.1 This study in relation to literature on care

6.1.1 Conceptualising care

The approach to care in this study is based on Tronto's definition as "everything we do to maintain, continue, and repair our world" (1993, p.103). This perception sees care a practice – an understanding that is supported by the findings of this study, which shows that the practices of large-scale fishers reveal care.

Care ethics literature also distinguishes between caring about and caring for as two different ways of conceptualising care; Caring about is associated with emotion whereas caring for refers to the action (De La Bellacasa 2012; Jax et al. 2018). Observing care in practice is often the most effective way to identify care when it is not explicitly articulated in discourse (Reckwitz 2002). In this study, focusing on caring for proved to be appropriate, as large-scale fishers did not frequently engage in emotional or affectionate discourse during the interviews.

6.1.2 Structural care

Scholars argue that power and structure are dimensions of care that should not neglected (Martin et al. 2015; Nadasen 2023). Practices are (re)produced and stabilised in society through system that define the boundaries of what is possible (Hargreaves 2011). Fishing operates within a broader web of systemic practices that are upheld by institution and power (Nadasen 2023).

The findings show that fishers act based on what they know and what they value. However, they also depend on the right "infrastructure" to be able to practice fishing in ways that align with these values. The infrastructure is shaped by the system (i.e. through government, laws, and higher-level decision makers), and practices must fit within externally defined and acceptable frames. As the

analysis demonstrates, these frames often do not align with fishers' own meanings and values regarding how fishing should be properly conducted.

This tension helps explain why illegal, unreported, and unregulated fishing (IUU) can occur (Willer et al. 2022), even in a sector that is otherwise highly regulated and controlled (Voyer et al. 2017). Bringing back the concept of stewardship from Enqvist et al. (2018) which emphasises agency (i.e. the ability and capacity of the carer to engage in caring actions) as central to environmental stewardship, this study shows that care, intention, and knowledge alone are not sufficient for action. I argue that agency is constrained by systemic pressures, creating a gap between wanting to care and being able to.

At the same time, this systemic constraint may be amplified in fishers' narratives. People can sometimes exaggerate external pressures in order to justify or rationalise their actions (Björkvik et al. 2020). This may also be the case for large-scale fishers.

6.1.3 Invisible/Hidden care

This study also supports literature showing that gender significant shapes how care is expressed (Leslie et al. 2019; Hansen & Stræte 2020; Gustavsson & Farstad 2022). Care is influenced by gendered, racialised, and classed biases (Tronto 1993) which operate through social norms. These norms shape how individuals perceive themselves in society, as well as how they speak and act (Batel et al. 2016; Loch & Riechers 2021). New generations adopt and reproduce these norms through what Social Practice Theory understands as collective practice (Reckwitz 2002).

Men in particular are subject to masculine norms that enforce certain ways of acting. For example masculine norms restrict the association with qualities coded as feminine, such as the expression of emotions (Hultman & Pulé 2018). As described earlier, care – especially *care about* - has been associated with expression of emotions (Jax et al. 2018; West et al. 2018), which has historically been linked to femininity (Gilligan 1993). From this we understand that care does not easily fit within dominant constructions of masculinity, and that social norms leave limited space for men to openly articulate care.

I have identified some ways that masculine discourse has affected how my participants expressed themselves. First, masculinity norms make men in industrial professions demonstrate physical and emotional toughness (Hultman & Pulé 2018; Avery et al. 2025). In my data, large-scale fishers avoided explicit declarations of care or emotional connection. Instead, they translated these sentiments into a masculine-coded discourse through which they narrated their experiences. They applied heroic narration and also avoided expressing certain emotions like sadness. They masked sad emotions with emotional toughness by saying "that's how it is".

Second, literature suggests that an acceptable way for men in industrial contexts to express care is through their relationship with machinery. For example, studies in agriculture show that men often express care through their attachment to farm equipment (Brandth 1995). The findings of my study agree because they find affection towards the boat to be evident among all fishers.

6.2 This research in relation to literature resource-extractive professions

I now turn to how large-scale fishers are understood in literature. Extractive industries are generally seen as oriented towards maximising resource extraction and commodifying natural elements as much as possible (Guyader et al. 2013; Jimenez et al. 2019; Mincytė et al. 2025).

Within this framing, large-scale fishers are often described are significant drivers of marine destruction. My study doesn't seek to challenge these established findings, nor prove the opposite. The ecological impacts of trawling are well documented and widely accepted (Guyader et al. 2013; Bueno-Pardo et al. 2017; Lloret et al. 2018; Willett et al. 2019; Mantziaris et al. 2021; Hilborn et al. 2023), and this evidence is not in question here.

What my findings show is how fishers themselves perceive and narrate their practices. Rather than understanding their work as destructive, they frame it as a response to what the sea needs. In their narratives, the sea is conceptualised as a farmland that requires trawling as a mode of production and maintenance. In other words they see themselves as cultivators who, through skills and experience, contribute to sustainings the sea's productivity. The same analogy has been identified among Spanish fishers (Herrera-Racionero et al. 2020). This narrative contrasts with scientific understandings of environmental harm and instead reshapes extractive practices as forms of contribution.

The tendency of professionals to develop interpretations of their practices to legitimise them (and translate them into something positive) has been documented in other extractive sectors, including industrial agriculture and slaughterhouse work. Professionals are documented to create narratives of care that are not easily recognised outside their professional world. Slaughterhouse workers may justify animal killing through reference to welfare standards and sustainability discourses (Sebastian 2025), whereas industrial farmers adjust their practices according to what is considered responsible within their professional communities (Mincytė et al. 2025). Hunters frame killing animals as a way of protecting ecological balance (Oltean & Gabor 2021; Arlinghaus 2024; Shephard et al. 2024), which can be interpreted as their own "agricultural" analogy that legitimises their practice as environmentally nurturing.

Within the fisheries literature, large-scale fishers are also often described as prioritising profit in their decision-making, sometimes at the expense of tradition or personal fulfilment (Cepić et al. 2026). While my findings don't show a clear hierarchy between these motivations, they suggest that tradition is highly valued. Fishers keep fishing in the same grounds as their fathers tought them and express pride in continuing this profession and navigating boats who carry historical and cultural heritage. Tradition is also tied to moral values and ecological knowledge that has been past down from their fathers. As a result of the importance of tradition, they become skeptical towards fishing that is detached from this inherited knowledge. Tradition, knowledge, and value play a more central role than is acknowledged in the literature.

This connects to a broader literature that often distinguishes large-scale from small-scale fisheries as fundamentally different (Guyader et al. 2013; Lewin et al. 2023; Cepić et al. 2026). My findings suggest that they are more similar than

anticipated. Most of the participants are descendents of small-scale fishers and state that they carry forward values from previous generations, when all fishing was, in today's definitions, small-scale. Large-scale fishers' qualities – mostly in the chapters of competences and meanings – were parallel to what research on small-scale fishers has found (Bender et al. 2014; Campbell et al. 2014; Lloret et al. 2018; Jimenez et al. 2019; Smith & Basurto 2019; Loch & Riechers 2021). Similarities were found in relation to ecological knowledge, the symbolic role of their boat, and the inseparable identity from their profession. In some cases, practices related to religious rituals were present in both small- and large-scale cases. For example, small-scale fishers in Pakistan engage in rituals connected to luck (Deb 2018), while large-scale fishers in this study similarly talked about praying during storms.

6.3 Methodological and personal reflection

My study suggests that the reason my outcomes differ from previous studies is largely explained by the methodological approaches used to study each group. To date, large-scale fishers have been studied less by social science (Chauvin et al. 2017; Nørgaard Remmen et al. 2021; Zhao et al. 2021; Elegbede et al. 2025; Grati et al. 2025; Guillot-Wright et al. 2025; Mantziaris et al. 2025; Tsirimokos et al. 2025), and if so, this was mostly through questionnaires and self-reports (Moriggi et al. 2020).

I approached large-scale fishers in what is commonly done with small-scale fishers; through ethnographies with interviews (Bender et al. 2014; Deb 2018; Lloret et al. 2018; Chavez Carrillo et al. 2019; Loch & Riechers 2021; Stoll et al. 2023). This methodology gave them the space to express themselves during interview. A significant element in the process was that I had the same country and language background. It gave access to registers of humour, facial expression and understatements that may have not been accessible to an external researcher.

Had I followed the initial methodological approach, care would likely have remained invisible. Instead, I would have captured mainly narratives of hardship and structural constraint. The shift to practice-based analysis prooved crucial because it enabled care to be visible in lived expriences.

Therefore, the assymetry between small-scale and large-scale fishing may be a result of this methodology gap. Studies that search for care in industrial contexts often do find it. Livestock farmers who don't express attachment to their animals, have been instead studied through their practices. What was found is that care exists in their extractive profession through knowing the animals individually and making sure they are laying down calm (Vigors et al. 2023). Discourse alone is not always a reliable pathway for identifying care in industrial professions. Practices provide a more suitable analytical entry point.

To extend how large-scale fishers care for nature beyond words, I also analysed visual data (photographs) provided by participants alongside the interviews. The photographs sometimes reinforced the language of hardship, such as images of fishing under all kinds of weather conditions (Fig.1). At the same time, some images revealed dimensions of fishing that were not strongly evident in the discourse, such as aesthetic appreciation of the sea. Figure 6 for example portrayed the sea as something calm and beautiful – a contrasting narrative to the

"harsh and rough" sea that was usually talked about. Interestingly, many of the sunset images were shared by fishers who expressed relatively little emotional language in interviews. Appreciation for the sea may be present but in more subtle forms. In this sense, visual material made an methodological contribution to this study.

Despite these contributions, several limitations should be acknowledged. My material aimed to identify practices, yet access to them was mediated through fishers' discourse. What could have made the finding more enhanced would be direct, real-time observation of fishing practices.

A further limitation concerns the visual material. The interpretation and incorporation of the photographs would have been strengthened if fishers were invited to reflect and explain their choices and motivations for choosing them. It would have reduced the reliance on researcher to interpretate the images alone.

Regarding the analytical framework, Social Practice Theory proved to be useful in capturing the relationship of competences, materials, and meanings. Yet, it was not the optimal tool to address systemic pressure and masculine norms. This reflection aligns with the critique of Social Practice Theory in general (Hargreaves 2011). The analysis would be further enriched by incorporating in more depth the role of power and gender in industrial fishing.

Finally, I reflect on my own development as a researcher. I became more resilient when I needed to reformulate my methods. I also developed stronger interpersonal research skills. I learned to adjust to different participants and to create conditions that encouraged openness. At times, this meant managing my own reactions and maintaining a neutral stance during challenging moments in interviews.

At the same time, I recognise that my positionality shaped the research process (Creswell & Creswell 2018). Keeping this position in mind, and as much as I have tried to be objective during the data collection and interpretation, my presence inevitably influenced participants' responses, both in what they chose to say and in the images they shared. Social desirability bias has likely played a role, as individuals often present themselves in ways they consider socially acceptable in interview settings (Krumpal 2013), and may similarly select images they expect to be favourably received (Crang & Cook 2007).

6.4 Contribution of the findings

Academically, this study locates care theory beyond its usual application in environmental protection contexts and into extractive industries. By doing so, it demonstrates that care can exist in extractive professions. This finding extends the reach of fields suitable for care-oriented research.

Theoretically, this study contributes to the development of Social Practice Theory by offering an empirical case. It also contributes to care ethics by demonstrating that practice-based analysis is a legitimate and productive way, alongside stewardship and gender studies, to identify care.

Socially, this study gives voices to a group that has received less attention from social research. By showing aspects of large-scale fishers that are not conventional with the dominant public potrayals of them as environmentally indifferent, the study fosters a more naunced understanding of this group. In terms

of environmental communication, through its constituitive way to see how this group understands their world, this study creates an arena for meaning negotiation about nature (Pezzullo & Cox 2018).

7. Conclusion

I return to the starting point of this thesis; the anecdote of those pedestriants who described large-scale fishers as an extractive group indifferent to nature. This moment raised the central question of whether and how care can exist within commercial-level fishing.

The findings demonstrate that care exist within large-scale fishing, both through conventional and less conventional ways. Fishers perform routines and actions that reveal care, such as adjusting the fishing gear to protect fish populations, and educating the public about food choices. At the same time, they enact care through narratives that reframe otherwise harmful practices as forms of nurturing nature. This study also identified structural and normative constrains that make practices of care less observable.

The outcomes of this study are based on a specific location (northern Greece) and a relatively small number of participants. To deepen the understanding of the social dimensions of large-scale fishing, this study invites researchers to engage further with similar groups across different cultural and linguistic contexts. It also recommends the use of non-discursive methods, such as visual materials, for exploring ways of relating to nature.

I end this thesis with the words of one of the fishers I interviewed:

> *"Let me take you on my deck. Surely you'll find your heart opening seeing all flickers of the sea. Then do it for a living. That's a different world. A hard one".* – Fisher 6

This is the takeaway I hope the reader carries forward, and one that I understood from this research journey. Industrial professions should not be interpreted through conventional notions of care. They require us to suspend our assumptions and devote the time and attention needed to truly listen to a world that operates differently than our own.

8. References

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AI disclosure

I have used the following AI tools:

Scopus AI. I used this tool to understand the current research trends with up-to-date related papers. It was mostly used for my research proposal and definition of my final topic. I searched my questions and key terms and read the recommended papers that came as outcomes to my question. Some of the papers were kept and cited, while others discarded.

Consensus App. I followed the same process with this tool as in Scopus AI. The outcomes were not as useful, and the papers were less cited. However, it helped me engage with fields that I have not included previously. I used it again when digging deeper into the literature review. I used it because I liked the format of asking a question, and getting a well supported answer (with links to academic papers).

Vibe. I used this recommended tool for the transcriptions of each interview. It is particularly useful, and I crosscheck the validity of the transcription through listening and reading the outcome simultaneously.

ChatGPT and Claude. I have used these two tools for similar purposes: in the initial stage of establishing my topic and exploring potential theoretical frameworks to analyse my data. I have used them since for editing and reviewing purposes, in regards to grammar correction and cohesion. I have also used them for feedback to my interview guide. Some of the recommendations were kept, while others deviated from my topic so were discarded.

Poster

Do large-scale fishers care for the sea?

Who are large-scale fishers?

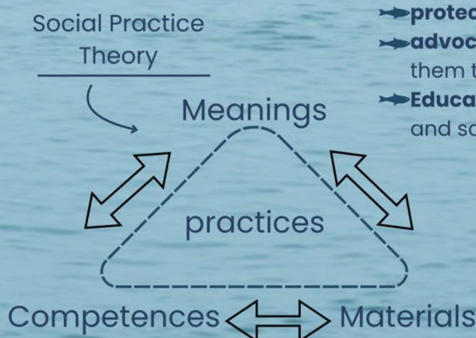
They are operators of commercial-level fishing that is known for the environmental impacts on the sea, such as **overfishing** and **polluting**. But they also take important decisions about the future of the oceans.

If they are harmful to the environment, can they care about it at the same time?

This study finds that they can But through what care **means for them** and sometimes do care without recognising it

1. Methodology

- Study fishers **not through numbers** which is the common way to do
- but through **interviews** and **images**
- Care is searched in fishers' **practices** (daily actions) over expression in words
- Framework:



2. care for the sea comes from what fishers **know**, **use**, **value** and **understand** about the sea

3. Care is practiced through:

- **protecting** the sea
- **advocating** for laws that force them to protect the sea
- **Educating** through social media and school visits

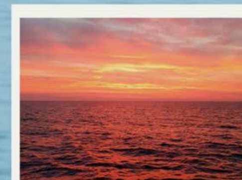
4. Their images showed:

Fish as food (meaning)

Hard work (skills)

making net (skill)

Boats (materials)



beautiful skies (meaning)

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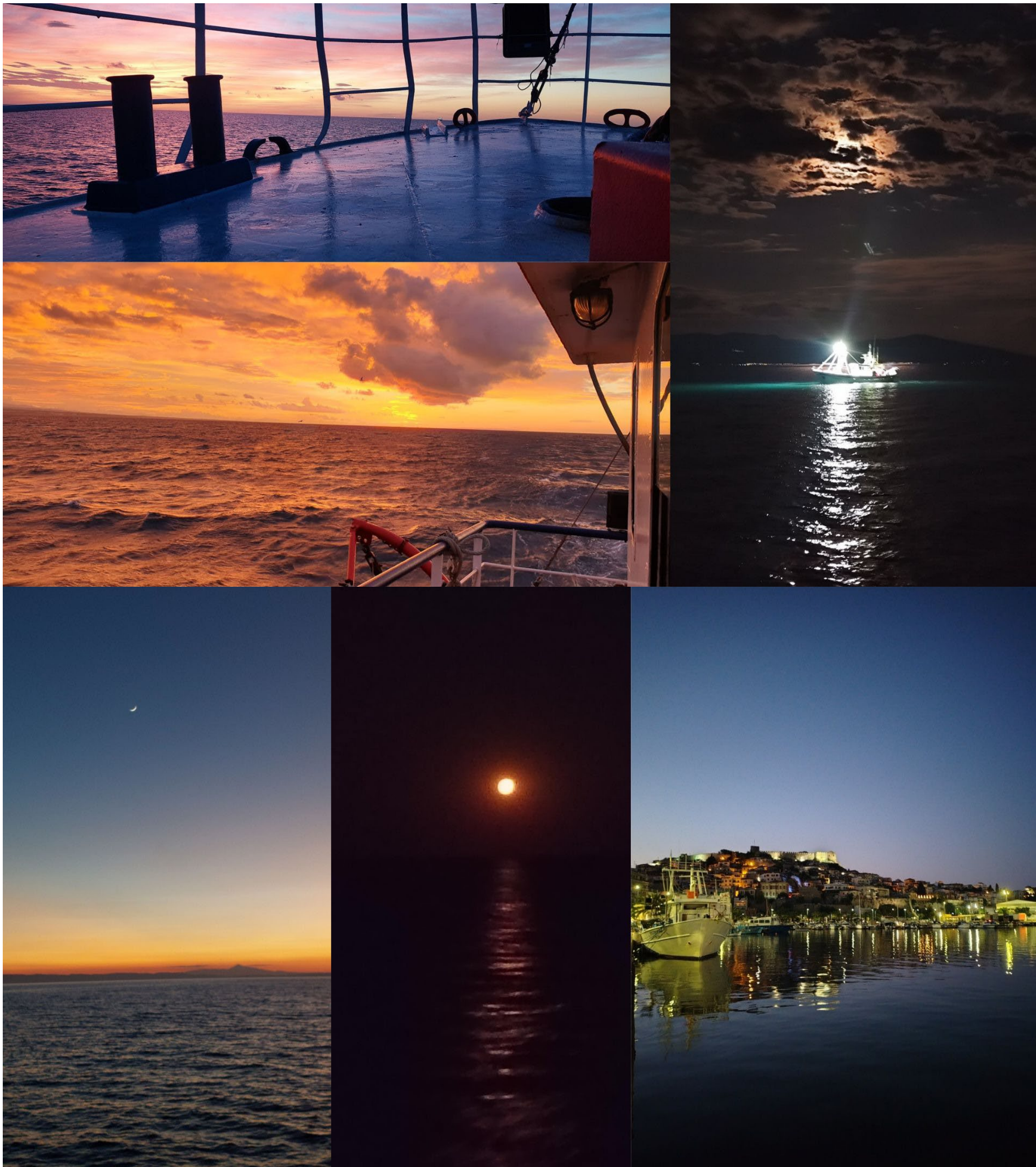
All images were produced by the participants of this study and reproduced with concent

Appendix 1

Additional figures that portray the sea from the perspective of large-scale fishers.



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