

CODE OF CONDUCT FOR STAKEHOLDERS, CITIZENS, TOURISTS

Work package 5 – Innovative exploitation of Adriatic
reef for Blue Economy

Activity 5.2 – Definition of common guidelines for
reef's users

Deliverable 5.2.2

CONTENTS

CONTENTS	1
ABBREVIATIONS	3
1 INTRODUCTION	4
1.1 PURPOSE AND OBJECTIVE OF THE IMPLEMENTATION OF RECOMMENDATIONS	4
1.2 PRINCIPLES OF THE CODE FOR CONDUCTING ACTIVITIES	4
2 IMPLEMENTATION OF RECOMMENDATIONS BY ACTIVITIES.....	5
2.1 DIVING (SNORKELING, FREEDIVING, SCUBA DIVING)	5
2.1.1 PERSONAL SAFETY	6
2.1.2 SAFETY OF OTHER USERS	7
2.1.3 PROTECTION AND CONSERVATION OF THE REEF VALUE	8
2.1.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS.....	9
2.2 RESEARCH ACTIVITIES	9
2.2.1 PERSONAL SAFETY	10
2.2.2 SAFETY OF OTHER USERS	10
2.2.3 PROTECTION AND CONSERVATION OF THE REEF VALUE	10
2.2.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS.....	11
2.3 RECREATIONAL FISHING	11
2.3.1 PERSONAL SAFETY	12
2.3.2 SAFETY OF OTHER USERS	12
2.3.3 PROTECTION AND CONSERVATION OF THE REEF VALUE	12
2.3.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS.....	13
2.4 PROFESSIONAL FISHING	13
2.4.1 PERSONAL SAFETY	14
2.4.2 SAFETY OF OTHER USERS	14

2.4.3	PROTECTION AND CONSERVATION OF THE REEF VALUE	14
2.4.4	INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS.....	15
2.5	AQUACULTURE	15
2.5.1	PERSONAL SAFETY	16
2.5.2	SAFETY OF OTHER USERS	16
2.5.3	PROTECTION AND CONSERVATION OF THE REEF VALUE	16
2.5.4	INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS.....	16
3	REFERENCES	17

ABBREVIATIONS

ROC	Republic of Croatia
NN	Narodne novine (The Official Gazette)

1 INTRODUCTION

1.1 PURPOSE AND OBJECTIVE OF THE IMPLEMENTATION OF RECOMMENDATIONS

Being familiar with both regulations for conducting certain activities on the reefs and the importance of reefs for marine biodiversity is crucial for sustainable use of these habitats.

The present Code is thus aimed to provide the users (legal and natural persons) who carry out activities on the reefs with additional instructions and suggestions, compared to the fundamental legal obligations, on how to perform their activities without compromising the reefs' ecological functionality and aesthetic appeal with the purpose of guaranteeing long-term sustainable exploitation.

Implementation of the Code recommendations aims at preventing possible harmful effects of wrongly conducting activities on reefs.

1.2 PRINCIPLES OF THE CODE FOR CONDUCTING ACTIVITIES

The natural properties of reefs represent the main reason for their use by different stakeholders. The bigger and more diverse a reef is, the higher its attractiveness for different types of use (diving, exploring, fishing). Given that the different activities often fall within the competence of different authorities, as a consequence there is an overlap of authorities that tends to increase with the increasing number of interested stakeholders. Moreover, the great attractiveness of reefs can affect wider areas around them due, for example, to anchoring or mooring, which usually take place in close proximity of the reefs, with potential impact on the reefs themselves and eventual surrounding protected habitats (e.g. Posidonia meadows).

If the reef area is not adequately managed, the occurrence of a high number of users, can lead to the destruction of its physical structure and depletion of benthic communities and fish fauna, even though users comply with legal requirements and possess required legal documents for conducting activities.

The main purpose of the Code is therefore to give recommendations for conducting activities for sustainable use of the reef that go beyond the legal framework.

2 IMPLEMENTATION OF RECOMMENDATIONS BY ACTIVITIES

2.1 DIVING (SNORKELING, FREEDIVING, SCUBA DIVING)

Diving in the internal waters and territorial sea of the Republic of Croatia for entertainment and sport purposes is regulated by Regulation on conducting underwater activities (In Croatia The Official Gazette, NN 47/99, 23/03, 28/03, 52/03, 58/03) and by Decision to repeal the Article 5, of the Article 5a, paragraph 2 and Article 8 of the Regulation on conducting underwater activities (NN 96/10).

In Italy, at present, there is no legal framework that regulates diving-recreational activities. Diving can be exercised in compliance with general legislation. The first regulations refer mainly to the regulation of sea fishing by Art. 130 of the decree of the President of the Republic 2 October 1968, n. 1639, for what concerns the obligation of reporting scuba divers while diving. The article is expressly referred to by Art. 91 of the ministerial decree 29 July 2008, n. 146, as Implementing Regulation of Article 65 of Legislative Decree 18 July 2005, no. 171. In the same Cape III, Art. 90 refers to the use of life-saving equipment and safety equipment for what concerns the pleasure craft used as support units for scuba diving for sporting or recreational purposes. The recent Decree of the Ministry of Sustainable Infrastructure and Mobility of 1 September 2021 has disposed with Art. 8 the “Communication of the start of support activities to scuba diving” and with Art. 9 the “Support activities for scuba diving”. To be taken in consideration is also the national Nautical-Code Legislative Decree 171/2005. Any other restrictions result from local laws. Therefore, before diving it is important to check the regional or municipal acts and the ordinances of the Coast Guard. International, European and national good practices are also available, albeit voluntary and non-binding, such as UNI EN ISO 24803:2018 on the requirements for recreational diving providers in the field of recreational scuba diving and snorkeling excursions.

In both nations, a diver must properly mark the diving area by mooring a buoy coloured in orange or red, with a diameter of at least 30 centimeters and a dive flag (red rectangle with a white diagonal line or nautical flag with a letter “A - Alpha” of the International code of signals) and/or a easily noticeable dive flag on the vessel from which the diving is performed. The diver (snorkeler, freediver or scuba diver) must not go away over 50m from the buoy and the boats must pass no less than 100m from the mark. During the night, the buoy must have a flashlight, visible at a distance of at least 300 meters. In Italy, each diver must be equipped with a delayed surface marker buoy.

Given that the amount of marine attractions determines the greater or lesser usability of a dive site, each diver must always bear in mind that it is not the only one to dive in that site and its presence can alter the delicate marine ecosystem, whether you dive from the shore or from a boat. A great number of diving groups on attractive locations such as reefs can have a harmful meccanic effect on the communities present, for example through their own equipment, resuspension of sediment etc.

Furthermore, few sites have buoys used for anchoring; consequently, every boat still has one or more anchors. Anchoring can lead to the destruction of the physical structure of the reef, damaging the organisms as well as sea habitats. Another consequence of the presence and increased traffic associated with the use of reefs could be an introduction of invasive species in the reef area. The importance of the diving community as an important stakeholder in the use of reefs has been recognised. Every diver can do his part, for example by preferring sites with buoy fields organized for diving excursions, be they snorkeling, free or scuba diving.

Another negative effect of crowding on the reef is the potential effect of disturbance, which is more evident for the motile fauna and especially for the fish fauna, an unwanted effect which may reduce the attractiveness of the reef itself. In this sense, as happens in various marine protected areas, the number of participants per dive and per day should be limited and monitoring studies should be conducted. Still, the diver can act as a critical consumer by informing himself and making conscious choices, requiring an ever greater conservation of the reef and the increase of studies on marine environments impact.

In this perspective, two additional international standards have been issued only recently, UNI EN ISO 21416:2019 and UNI EN ISO 21417:2019, which specify requirements and guidance on environmentally sustainable practices in recreational diving. The former is addressed to service providers and to all stakeholders involved in recreational-diving-related activities on best practices to minimize negative impact on the aquatic environment and to optimize positive outcomes. The latter document specifies requirements for training programmes designed to educate participants in environmental awareness and sustainable environmental practices in recreational diving activities. The standards apply to scuba diving, snorkeling and freediving (breath hold diving) and should help stakeholders to identify and compare service providers who follow environmental best practices.

The requirements listed in these two international standards are useful inputs for the conservation of the reefs' environmental value and are partially reported below, together with suggestions on personal safety, on the safety of other reef users and on information of the public and of the competent authorities. Other recommendations derive from the results of the Adrireef project.

In conclusion, every diver who loves the sea has the duty to inform himself, for example also by participating in citizen science and monitoring programs organized by the local and research institutions, and to act as a needle of the balance for an ever greater protection of underwater beauties.

2.1.1 PERSONAL SAFETY

- Respect laws, regulations and rules on diving, fishing and hunting as well as those on marine traffic,
- Be trained in diving by a licensed diving instructor and be in possession of a valid license,
- Respect the standards and rules of your diving didactic,
- Follow a speciality scuba diving training course (e.g. wreck, coral reef, marine biology), if applicable,
- Always keep yourself in good psychophysical condition for diving, try to be comfortable in the water and dive only when you feel in good condition,

- Do a specific regulatory medical examination, at least once a year. Avoid the use of cigarettes, alcohol and drugs, as well as anticongestants before diving,
- Try to keep yourself constantly updated and efficient on diving techniques attending advanced or specialty courses and review your technique in an environment confined (swimming pool) after a period of inactivity,
- Never dive alone, always in two, choose your partner and establish the dive purpose and the necessary equipment (use a checklist to be sure not to forget anything),
- Choose a location and plan the dive according to your diving experience (e.g. beginner or advance diver), dive within the limits of your qualification,
- Have a good knowledge of the chosen diving location in advance, check if 3D maps or virtual reality tours are available for the site,
- Get a detailed and up-to date weather forecast specific to the site you are diving, consult real time current/temperature/turbidity data online if available, and prepare the appropriate gear accordingly (e.g. bailout torch, dry or semi-dry suit)
- Mark the diving position correctly,
- On land, place your vehicle and your equipment in a way to avoid blockages or obstruction of sidewalks, roads or accesses to structures. Avoid disseminating the equipment on the dive site.

2.1.2 SAFETY OF OTHER USERS

- Respect laws and regulations and rules on fishing and hunting as well as those on marine traffic,
- Make sure you know your partner's equipment that needs to be functional, adequate, complete and well maintained. Bring a spare parts kit with you and check it every time,
- Check if there are other diving groups on location,
- Adjust the number of groups and divers to the conditions on the location and diving experience,
- Review with your partner the conventional and particular signals, determine who will drive the dive, agree on the path to follow during the dive, agree on entry and exit points and on the most congruent techniques,
- Always stay in contact with your buddy during the dive and any surface transfers, in case of loss of sight of the partner, perform a search in dive for a minute after which to rise, you will find yourself on the surface, otherwise activate the foreseen emergencies,
- Inform other divers of your diving skills during the briefing,
- Mark the diving position correctly. If necessary use the boat or a float as a support point on the surface,

- If you dive on wrecks or caves, remember to follow all safety procedures and above all to always be aware of the exit point. If necessary, use a guideline and do not abandon it for any reason. However, please note that for this type of diving it is necessary to have acquired the qualification,
- Agree on emergency procedures before diving. Know the nearest hyperbaric chamber and emergency numbers.

2.1.3 PROTECTION AND CONSERVATION OF THE REEF VALUE

- Plan the dive respecting any limits and constraints such as the maximum number of divers per day and the sites of particular sensitivity identified by the managing body, etc. present in protected marine areas, in wrecks or in archeological areas,
- Avoid anchoring or mooring support boats directly on the reef,
- Once anchored, carefully check that the anchorage is stable to avoid the risk of drifting on the reef,
- Respect the animals' breeding periods on the reef,
- Respect marine life without disturbing the environment (do not touch or disturb organisms), also during shooting photos/video,
- Don't focus your light on organisms for too long, prefer diving torches with warm colors,
- Restrict access to and stay in natural ravines, to avoid damage and disturbance to the environment (e.g. air bubbles inside),
- Practice buoyancy control and advanced finning techniques mostly in close proximity to the reef, e.g. dive at an appropriate distance, to avoid any contact with the reef and injuring sessile organisms,
- Avoid stirring up sediment and avoid stepping on the bottom,
- Do not litter. Avoid dirtying the places you use by altering the ecological system. Use trash facilities on land or on board and remove sea litter encountered during the dive if not dangerous,
- Avoid the use of cosmetics or sunscreen products that are considered to be harmful to aquatic life as much as possible,
- Do not chase, touch, poke, spear/capture marine life or collect marine life souvenirs,
- Do not place cameras on reefs or move marine life to capture a better shot,
- Follow educational programmes for divers on reef life and protection, on protected and invasive species,
- Help to develop and implement or support mooring buoy programmes and actively use moorings, drift or hand place anchors for boats,
- Abide by all local, regional, national and international environmental laws, regulations and customs.

2.1.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS

- Inform the competent institutions about the presence of protected or invasive species,
- Inform the competent authorities if you notice illegal actions,
- Participate in citizen science and monitoring programs organized by the local and research institutions,
- Participate in eco-actions of cleaning.

2.2 RESEARCH ACTIVITIES

Scientific research in the internal water, territorial sea, and exclusive economic zone of the Republic of Croatia can be conducted by local and foreign legal and natural persons, and Croatian warship only with the approval of the Ministry responsible for the maritime affairs. (Art. 13 Maritime Code NN 181/04, 76/07, 146/08, 61/11, 56/13, 26/15, 17/19).

In Italy, scientific research in all fields is allowed to universities, public bodies in charge, public and private laboratories or research centers defined by the Ministry of University and Research. Conducting research activities in the field of maritime fishery is allowed by the Ministry of Agricultural, Food and Forestry Policies by preparing a list of Institutes with adequate structures, means and professional profiles (D.P.R. n. 1639, 2/10/1968). When the research involves experimental fishing surveys, it is necessary to request the authorization for Scientific fishing from the Ministry of Agriculture, Food and Forestry Policies (Article 7 of EU Reg. n. 1224/2009 and D.P.R. 1057 of 9 June 1976). The institute that intends to carry out a Scientific fishing activity must report to the Ministry:

- 1) the research project description;
- 2) the area involved in the fishing activity;
- 3) the period required for the activity in question;
- 4) the vessels used for the purpose.

In addition, the authorization for boarding the scientific personnel must be requested from the Port Authorities of the areas where the research has to be implemented, which are responsible for controlling the safety requirements for work and navigation during the scientific sampling cruise. The authorization for Scientific fishing is limited to the period of time necessary to carry out the research and is conditional on the observance of prescriptions to be determined on a “case-by-case” basis. Research foreseen in areas subject to particular protection regimes or in autonomous Regions with special status, may require specific authorizations or limitations to the sampling activity.

In Croatia, pursuant to the Nature Protection Act (NN 80/13, 15/18, 14/19, 127/19), Article 145, a legal and natural person who intends to conduct scientific and/or professional research of the nature components in the protected area is obliged to obtain permission.

Regarding the impact on reefs, research activities do not pose any danger if they are conducted by non-invasive methods and professionally, in accordance with the issued permits for research. In the case of an attractive location where there are more users at the same time and place, the crowding of the location could compromise the regular research activity and the consequent intensification of the maritime traffic could also put in further danger the divers, both researchers and tourists.

2.2.1 PERSONAL SAFETY

- Inform about the research location,
- Diving alone should be strongly avoided,
- Mark the diving position correctly,
- If the research includes diving, implement guidelines from chapter 2.1 and respect legal regulations related to the organization of diving activity.

2.2.2 SAFETY OF OTHER USERS

- Learn about and verify the presence of other users in the area (divers, fishers, other researchers);
- Make informal contact with the other users present in the area;
- Adjust the research to the weather conditions on the location, especially when sampling involves autonomous diving.

2.2.3 PROTECTION AND CONSERVATION OF THE REEF VALUE

- Conduct research in order to minimize habitat disturbance and disruption;
- Use non-invasive sampling methods wherever and whenever possible (ex. prefer photographic and video sampling rather than fishing or removing substrate and organisms; use of removable structures or probes; reduce frequency of sampling),
- Avoid anchoring or mooring research and support boats directly on the reef,
- Once anchored, carefully check that the anchorage is stable to avoid the risk of drifting on the reef,
- Set up, wherever and whenever possible, fixed anchorages out of the reef to be used during the overall research period instead of using temporary anchorages at each survey,
- Practice buoyancy control and advanced finning techniques mostly in close proximity to the reef, e.g. dive at an appropriate distance, to avoid any contact with the reef and injuring sessile organisms,
- Avoid stirring up sediment and avoid stepping on the bottom,
- Pay particular attention to not touch the sessile fauna settled on the reef when using ROV provided with cable and AUV to avoid damage to carbonate erect organisms (e.g. bryozoans anthozoa),

- Avoid releasing into the water harmful substances used to preserve biological samples (e.g. alcohol, formaldeide) and waste.

2.2.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS

- Inform competent institutions about the presence of eventual invasive species;
- Inform the competent authorities about eventual illegal activities;
- Promote the implementation of environmentally friendly mooring systems.

2.3 RECREATIONAL FISHING

Fishing on reefs usually involves the use of a boat. Sailing and staying on the boat are in the domain of the safety of navigation (Regulation on the safety of maritime navigation in the internal waters and territorial sea of the Republic of Croatia and the manner and conditions of performing the vessel traffic supervision and management and Regulation on boats, dinghies, and yachts both in Croatia and in Italy).

Both recreational and professional fishing are subject to similar common sense rules. Fishing often takes place during unpredictable weather conditions, and a good catch can distract from recognizing the bad weather approaching that would entail the need to quickly return to the safe harbor. The farther the reef is from a safe harbor, the better one should know the risks of sudden weather changes and check the weather forecasts before embarking on a fishing trip. Fishers can get hurt with sharp tools used during fishing (hooks, knife, scissors, pliers), and that is why it is important to have a first aid kit onboard. Fishers should also be well aware about poisonous and potentially poisonous organisms, as well as about handling them properly. Due to different individual venom sensitivity, in some cases local poisoning or spine sting may be accompanied by a severe allergic reaction.

Spearfishing brings all the risks related to freediving (chapter 2.1). Spearguns should not be kept loaded on the boat. During the dive, a speargun should be handled carefully, especially in case of fishing with a partner (which is recommended for diving safety). Overestimating the personal diving skills and ignoring tiredness, cold conditions or other stress symptoms could be fatal to spearfisher. That is why one's abilities and risk exposure should be assessed by adequate training and psycho-physical preparation.

In case of restricted fishing areas (as the reefs could be), conflicts may arise about the priority of resource exploitation. Thus, a management of the fishing area should be envisaged, for example by creating concessions for recreational fishing associations or establishing temporal segregation of users, allocating specific periods of time when each group is permitted access in order to minimize the competition for space and resources.

Anyway, fishing activities conducted from boats should be avoided when other underwater activities are taking place in the same area (e.g. diving for research, tourism or underwater spearfishing).

Regarding the potential negative impacts produced by recreational fishing on reefs, it is very important that fishers are aware of the protected species, the minimum landing size, maximum catch allowed, and the fishing temporary stop for specific target species. Recreational fishers should also strictly respect the limitations in terms of the amount of allowed gears. In many cases, a fisher who is familiar with the protected species can save and return to the sea the accidental catch, without great damages. Recreational fishing gears set on the reef can remove parts of substrate or structural organisms. Lost fishing gears can represent a significant impact of every type of fishing, even though it is heavier in the case of professional fishing which usually utilizes greater amounts of gears. Loss of fishing gears should be communicated to authorities in order to organize their removal. Other potential waste produced by recreational fishing includes pieces of plastic ropes, artificial baits, rubber parts of the gears, and broken floats.

As for any other activity, anchoring boats on the reefs could be a serious hazard to their integrity.

On the other hand, fishers are usually experienced and very familiar with organisms that they catch in a certain area. The emergence of allochthonous organisms can pose a threat to the biodiversity of the reef; fishers' observations could be very useful to the early detection of alien species and included into projects of citizen science. Their reports should be documented by pictures and communicated to authorities or to scientific institutions.

2.3.1 PERSONAL SAFETY

- Arrival and stay on the reef for fishing should be organised on the basis of weather forecast;
- Fishing should be coordinated with other activities which take place on the reef;
- Fishers should get acquainted with the poisonous or venomous species and their correct handling;
- In underwater fishing, mark the diving position correctly,
- Spearfishing should be conducted in pairs; the speargun should be handled carefully and should not be loaded on the vessel.

2.3.2 SAFETY OF OTHER USERS

- Check if there are diving groups in the location or other users who are conducting activities which can be in conflict with fishing.
- Avoid fishing in the close proximity of gears of professional fishers in order to spare damage to them.

2.3.3 PROTECTION AND CONSERVATION OF THE REEF VALUE

- Anchoring on sensitive hard bottom substrata should be carefully avoided;
- Avoid anchoring on seagrass meadows, if they are present, even if outside of the reef perimeter;
- Once anchored, carefully check that the anchorage is stable to avoid the risk of drifting on the reef,

- Report the place and loss of fishing gears;
- Organize removal of lost fishing gears in collaboration with divers;
- Release specimens of protected species which are accidentally caught or, in the case they are injured, bring them to land and inform promptly the local port authority;
- Do not litter. Avoid dirtying the places you use by altering the ecological system. Use trash facilities on land or on board and remove sea litter encountered during your stay if not dangerous;
- Abide by all local, regional, national and international environmental laws, regulations and customs.

2.3.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS

- Inform authorities about the loss of fishing gears, reporting the position when they were lost;
- Report unexpected catches of non-indigenous species to the competent institutions;
- Report accidental catches of protected species to the competent institutions;
- Report any illegal activity recognised on the reef.

2.4 PROFESSIONAL FISHING

Small scale fishing with set gears is well known as low impacting on the marine environment and represents the only type of professional fishing usually carried out at reefs and in their neighbourhoods. Trawling, indeed, also takes place in some cases in close proximity to reef areas located outside the 3 nm from the coast to catch high valuable reef-dwelling species. Such activity is extremely detrimental for the reef habitats as it causes either the resuspension of fine sediments which can then deposit again on the reef, choking the sessile organisms settled on it, or can destroy seagrass meadows occurring in the reef surroundings.

Professional fishing on reefs usually involves the use of a boat. Sailing and staying on the boat are in the domain of the safety of navigation.

Professional fishers are usually much more aware compared with the recreational ones of the risks due to weather changes, handling potential poisonous organisms, and other accidents which can occur during fishing activities at sea.

The potential negative impacts produced by professional small-scale fishing on the reefs are essentially similar to those already described for recreational fishing (see chapter 2.3), but those produced by professional fishing are potentially of greater magnitude. Professional fishing has, for example, the potential to remove bigger quantities of organisms and with a higher frequency compared to recreational fishing.

Fishers must be aware of the protected species, of the minimum landing size, eventual maximum catch allowed, and the fishing temporary stop for specific target species. Professional fishers should also strictly respect the limitations in terms of the amount of allowed gears. Professional fishers often save and return to the sea accidentally caught specimens of protected species or brought them to local research institutions or port authority in the case they are injured.

Professional fishing gears set on the reef can remove parts of substrate or structural organisms. Given the high amount of gears used by professional fishing, their loss can represent a significant impact on reefs and should be communicated to authorities in order to organize their removal. Other potential waste produced by professional fishing includes pieces of plastic ropes, pieces of nets which can exert ghost fishing for a certain time, rubber parts of the gears, and broken floats.

Anchoring boats on rocky bottoms of the reefs could be a serious hazard to their integrity and should be avoided by fishing vessels.

On the other hand, professional fishers are experienced and very familiar with organisms that they catch in a certain area and their communication of the detection of alien species to authorities or to scientific institutions is often very useful.

2.4.1 PERSONAL SAFETY

- Arrival and stay on the reef due to fishing should be coordinated with the weather forecasts;
- Fishers should get acquainted with the poisonous or venomous species and their correct handling.

2.4.2 SAFETY OF OTHER USERS

- Check if there are diving groups in the location or other users who are conducting activities which can be in conflict with fishing in order to prevent injuries to people or damage/loss of fishing gears.

2.4.3 PROTECTION AND CONSERVATION OF THE REEF VALUE

- Anchoring on hard bottom substrata should be carefully avoided;
- Avoid anchoring on seagrass meadows, if they are present, even if outside of the reef perimeter;
- Once anchored, carefully check that the anchorage is stable to avoid the risk of drifting on the reef,
- Report the place and loss of the fishing gears;
- Organize removal of lost fishing gears;
- Release specimens of protected species which are accidentally caught or, in the case they are injured, bring them to land and inform promptly the local port authority;
- Do not litter. Avoid dirtying the places you use by altering the ecological system. Use trash facilities on land or on board;

2.4.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS

- Inform authorities about the loss of fishing gears, reporting the position when they were lost;
- Report unexpected catches of non-indigenous species to the competent institutions;
- Report accidental catches of protected species to the competent institutions;
- Report any illegal activity recognised on the reef.

2.5 AQUACULTURE

Both in Croatia and in Italy, aquaculture is an activity that can be conducted only by registered and authorized legal and natural persons.

In the Republic of Croatia personal safety in sole shipowners and aquaculture companies is defined by the Occupational Safety Act (NN 71/14, 118/14, 154/14, 94/18, 96/18). Personal safety in aquaculture is not closely related to the presence of the reef in a breeding zone.

In Italy the safety in the aquaculture sector is regulated by the legislative decree of August 17, 1999, n. 298. These provisions concern the obligations of shipowners and safety rules on board vessels.

In specific cases, aquaculture can take place in a reef area or nearby. Intensive finfish aquaculture can be very detrimental for reefs due to the anchoring of cages which can heavily damage the physical structure of the reef or the seagrass meadow potentially occurring in the neighbourhoods, and the pollution caused by the release of organic waste produced by cultured fish and of drugs used to increase their welfare. Other types of aquaculture, such as shellfish culture on long-lines and capture aquaculture, are potentially less impacting, stating that a range of basic precautions are adopted. Indeed, the anchorages used for long-lines in shellfish culture and the loss of plastic bags and broken floats can heavily deplete the hard substrates of the reef and their benthic communities as well as the seagrass meadow potentially occurring in the proximity.

Moreover, the increased traffic on the reef due to the support vessels of the farms can produce pollution and disturbance to the reef fauna.

On the other hand, capture aquaculture on artificial reefs, which consists in collecting bivalves and other organisms spontaneously settled on the manmade substrates by professional scuba divers, can lead to the depletion of benthic communities if the collection is carried out in an irresponsible manner, while anchoring boats on rocky bottoms of the reefs could be a serious hazard to their integrity.

2.5.1 PERSONAL SAFETY

- Arrival and stay on the reef due to aquaculture activities should be coordinated with the weather conditions.
- In capture aquaculture with scuba divers, mark the diving position correctly and take all the precautions necessary for diving.

2.5.2 SAFETY OF OTHER USERS

- Verify the presence of other users in the area (divers, fishers, researchers, etc.).

2.5.3 PROTECTION AND CONSERVATION OF THE REEF VALUE

- Maintain the distances regulated by the concession from reefs or areas of environmental value;
- Anchoring on hard bottom substrata should be carefully avoided;
- Avoid anchoring on seagrass meadows, if they are present;
- Once anchored, carefully check that the anchorage is stable to avoid the risk of drifting on the reef;
- Organize periodical removal of aquaculture gears and litter deposited on the seabed in the surroundings of the farm and on the reef;
- Do not litter. Avoid dirtying the places you use by altering the ecological system. Use trash facilities on land or on board;
- In capture aquaculture, do the best to selectively collect only the target organisms;
- In capture aquaculture, avoid collecting non valuable, undersized specimens of the target species; if juveniles are accidentally collected, release them in the same place where they were collected;
- In intensive finfish culture close to reefs the use of drugs and other substances to reduce diseases and parasites, and increase the welfare of farmed fish should be minimized;
- Periodically inquire about the presence of alien species.

2.5.4 INFORMING THE PUBLIC AND COMPETENT INSTITUTIONS

- Inform authorities about the loss of fishing gears, reporting the position when they were lost;
- Report unexpected catches of non-indigenous species to the competent institutions;
- Report accidental catches of protected species to the competent institutions;
- Report any illegal activity recognised on the reef.

3 REFERENCES

1. Maritime Code (NN 181/04, 76/07, 146/08, 61/11, 56/13, 26/15, 17/19)
2. Regulation on conducting underwater activities (NN 47/99, 23/03, 28/03, 52/03, 58/03) and Decision to repeal the article 5, of the Article 5a, paragraph 2 and Article 8 of the Regulation on conducting underwater activities (NN 96/10).
3. Regulation on the safety of maritime navigation in the internal waters and territorial sea of the Republic of Croatia and the manner and conditions of performing the vessel traffic supervision and management (NN 79/13, 140/14, 57/15)
4. Regulation on boats, dinghies, and yachts (NN 13/20, 52/20)
5. Nature Protection Act (NN 80/13, 15/18, 14/19, 127/19)
6. Occupational Safety Act (NN 71/14, 118/14, 154/14, 94/18, 96/18)
7. Decree of the President of the Republic 2 October 1968, n. 1639 “Regolamento per l'esecuzione della legge 14 luglio 1965, n. 963, concernente la disciplina della pesca marittima.”
8. Ministerial decree 29 July 2008, n. 146 “Regolamento di attuazione dell'articolo 65 del decreto legislativo 18 luglio 2005, n. 171, recante il codice della nautica da diporto.”
9. Decree of the Ministry of Sustainable Infrastructure and Mobility 1 September 2021 “Requisiti, formalità ed obblighi da ottemperare per l'utilizzazione dei natanti da diporto ovvero delle moto d'acqua ai fini di locazione o di noleggio per finalità ricreative o per usi turistici di carattere locale, nonché di appoggio alle immersioni subacquee a scopo sportivo o ricreativo nelle acque marittime e interne.”
10. UNI EN ISO 21416:2019 “Recreational diving services — Requirements and guidance on environmentally sustainable practices in recreational diving”
11. UNI EN ISO 21417:2019 “Recreational diving services — Requirements for training on environmental awareness for recreational divers”