



## KICK OFF MEETING 16/2/2015-20/2/2015

### REPORT



## QUESTIONNAIRE SURVEY AND FOCUS GROUP WITH DIVING CHARTERS OF THE PORTOFINO MPA

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## **INTRODUCTION**

The bulk of the work constituting Work Package 1 (WP1) includes a baseline assessment of the diving 'system'. Such a baseline assessment involves the collection of relevant information from all key stakeholders in the diving 'system'. Diving charters (or diving operations) owners and managers constitute one of the most important interfaces between diving tourists, diving operators, researchers, citizen scientists, the relevant authorities (in this case the MPA), local communities (e.g. local businesses and municipalities), various markets (e.g. technology), and the environment. Therefore, the first approach at collecting baseline information started from an analysis of diving operators' perceptions of the diving 'system'. For this analysis, the focus was primarily on the two main case studies selected for Green Bubbles, namely the Portofino MPA (Italy) and Sodwana Bay (South Africa).

The following report summarizes the outcomes of a questionnaire survey and focus group discussion which were held in Santa Margherita Ligure (Italy), on the morning of Wednesday 18/2/2015, during the official launch of the Green Bubbles project.

The questionnaire survey and focus group discussion involved a total of 11 representatives from a number of dive charters operating in the Portofino MPA, Italy. The chief aim of the meeting with the representatives from the diving charters was to officially introduce the Green Bubbles project to the diving industry in Portofino, and to invite the representatives to enterprise collaboration with the Green Bubbles project by means of signing a Memorandum of Understanding (MOU), which they could exit at any point during the course of the project.

The aim of the questionnaire survey and focus group discussion was to take a 'first dive' into the exploration of the diving industry and the diving 'system', primarily from the perspective of business owners and managers in the industry itself. The data collected represented opinions and views concerning themes underlying the three main pillars of sustainability, namely social, environmental, and economic. The results of this first analysis provide information which will be useful in the formulation of new assessments throughout the course of Green Bubbles.

## **MATERIALS AND METHODS**

### **QUESTIONNAIRE SURVEY**

#### *Questionnaire structure*

A structured questionnaire was developed during January and February 2015 by members of TREES (NWU), GAIA, and UNIVPM. The questionnaire was characterized by four main sections.

The first section (section A) included seven questions covering demographic details such as gender, age, education, and whether the respondents grew up by the sea. The second section (section B) included ten questions covering details on the diving charter/school (later also referred to as diving business), such as location, size (number of boats, number of staff during the diving season), productivity (logged dives) over the last five years, and business seasonality. The third section (section C) included six questions covering details on diving experience, for example number of dives logged, years of diving, diving frequency (per year), and a list of all obtained certifications and relevant certifying agencies.

The fourth and last section (section D) included a total of 81 items in one question. The question invited the participants to indicate their level of agreement (using a 5-point Likert scale) with a list of statements concerning the scuba diving industry. These statements covered nine broad themes, including personal (e.g. quality of life), social (e.g. support to and by the local community), economic (e.g. revenue generated by the industry) environment (e.g. impacts, conservation), governance (MPA), communication (e.g. between the industry and the community, the MPA, and scientists), science (e.g. interest and support), cooperation and promotion (e.g. using social networks to promote the business), and tourism (e.g. behavior, safety).

#### *Questionnaire administration*

Before the Kick Off Meeting (16-20 February 2015), a total of 20 diving charters were personally invited by a member of GAIA to participate in the launch of Green Bubbles. A total of 11 charter representatives participated in the launch, thus also participating in the questionnaire survey. All 11 representatives filled in the questionnaire during the launch, immediately following a brief introduction (Figure 1). In order not to influence responses to some of the items in the questionnaire, the full introduction of Green Bubbles was given to the representatives only after the compilation of the questionnaire survey. The questionnaire took approximately 20 minutes to complete.



Figure 1. Questionnaire session with diving business representatives at the Portofino MPA. Photo credits: S. Lucrezi.

## FOCUS GROUP SESSION

The questionnaire survey was followed by a full introduction of Green Bubbles, which lasted approximately 45 minutes. After the introduction, the representatives were invited to participate in a focus group session, aimed to give them an opportunity to elaborate on any of the themes covered in the questionnaire survey. All 11 representatives agreed to participate in the focus group session.

To facilitate the discussion of relevant themes, the representatives were divided into three groups of three or four. Each group was to sit with a facilitator for a total of 10 minutes at one of three stations, and move on to the next station when their time was up. Each station dealt with two broad themes, the discussion of which was initiated via two general questions (see below). Each station had a facilitator communicating with the participants and writing key words on large sheets of paper, and one person taking more detailed notes (Figure 2). An 'information saturation' strategy was employed during this focus group discussion. Participants coming to a given station were provided a summary of key words emerged from the discussion with a previous group. By this method, participants were given an opportunity either to add more keywords to the discussion, or to discuss a particular keyword further. The facilitators noted that the production of information was following a particular trend, whereby the first group in a station produced a large number of keywords, the second group added a few more keywords while also elaborating on some existing keywords, and the last group simply elaborated on existing keywords.

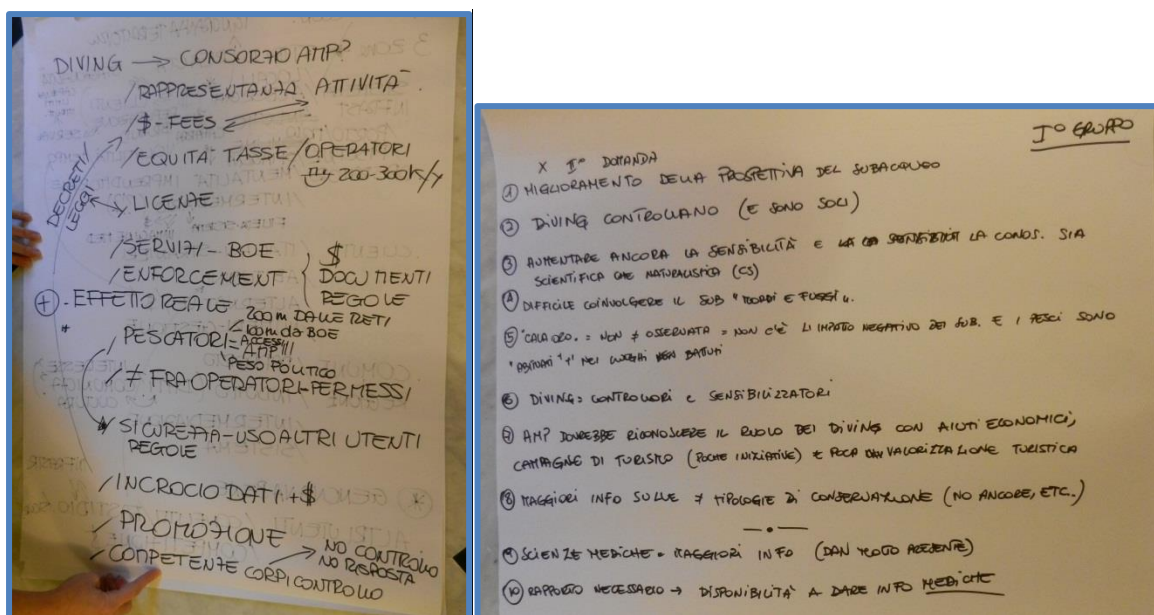


Figure 2. Keywords and notes from stations in the focus group session with diving business representatives at the Portofino MPA. Photo credits: S. Lucrezi.

The stations were divided as follows:

Station 1: Theme 1: Society. Question 1: How would you describe the relationship between your activity/operation and society (local community and the general public), and what would you change?

Station 1: Theme 2: Governance (MPA). Question 2: How would you describe the relationship between your activity/operation and the MPA, and what would you change?

Station 2: Theme 3: Economy. Question 3: How would you describe the economic state of your activity/operation, its financial contribution to society and conservation, and what would you change?

Station 2: Theme 4: Non-monetary value. Question 4: What are the non-monetary aspects that add value to your activity/operation, and what would you change?

Station 3: Theme 5: Environment. Question 5: How would you describe the relationship between your activity/operation and the environment/conservation (mostly marine but also terrestrial), and what would you change?

Station 3: Theme 6: Science. Question 6: How would you describe the relationship between your activity/operation and the sciences (from environmental to social and economic) and what would you change?

Following the focus group discussion, the facilitators and the note takers presented a summary of all the keywords and elaborations emerged from their station to all participants, to ensure that all information gathered was agreed upon by the participants (Figure 3).





Figure 3. Focus group session wrap-up with diving business representatives at the Portofino MPA. Photo credits: S. Lucrezi.

## **DATA ANALYSIS**

Data from the questionnaire surveys (n = 11) were captured in Microsoft Excel (2010) and analyzed using descriptive statistics in Statsoft Statistica (version 12, 2014). The results from the focus group session were transcribed in Microsoft Word (2010). All graphs were created using the software GraphPad Prism (version 5.03, 2010).

## **RESULTS**

### **QUESTIONNAIRE SURVEY**

#### *Section A: Demographic details*

Ten of the participants in the questionnaire survey were male, and one female. The age of the participants ranged from 31 to 64, with an average of 46 years of age. The highest level of education for nine of the respondents was a high school diploma or equivalent; one of the respondents was a graduate, and another claimed to have received post-graduate education as well. All except one (originally from Peru) of the respondents were originally from Italy, although only six of them were from Liguria, and the rest from other regions in Italy. The marital status of the respondents was either single (six people), or divorced (four people), or living with a partner (one person). Five people claimed to have grown up by the sea, with the remaining six having grown up far from the sea.

#### *Section B: Details on the diving charter/school*

All except two (one manager and one employee) of the respondents owned the diving charter they were representing. Of these, most were also instructors (seven) and guides (five); some were also CEOs (two) and managers (two); and one was an environmental educator.

The age of the charters being represented ranged from zero (only just established) to 25 years. Six charters were between 4 and 10 years old, while four were 19 years or older. In most cases (seven), specifically those pertaining the younger charters, the respondents had been in possession of and working for a charter since its establishment. The longest someone had been involved in a charter was 18 years (oldest charter). The respondents claimed to have had 3-42 years of experience as professionals in the diving business, although the majority (nine) of them had between 10 and 20 years of experience.

The diving charters being represented were based, in order of proximity to the MPA, in Santa Margherita Ligure (four), Recco (one), San Michele di Pagana (two), Rapallo (one), Lavagna (two), and Fiera di Genova (one). The number of employed (either permanently or temporarily) staff during the diving seasons was claimed to range from 3 to 15, although 4-6 staff were reported in nine cases. Some charters were involved in other activities outside of diving operations and schooling, mostly repairs (four) and research (three), but also informatics (two), high school teaching (one), retail (one), and marketing (one). The number of vessels owned for diving activities ranged from 1 to four, with half of the charters having two vessels.

The reported productivity of the charters (in terms of both dives and courses) from 2010 to 2014 inclusive is displayed in Figure 4. Evidently there was a decrease in charter productivity over time in line with the economic recession (from 2009). Interestingly, while dives picked up in 2014, courses continued to decrease. Regarding seasonality, the summer season (June to September) evidently constitutes the most productive time of the year for the diving charters, as reported in Figure 5. However, the two months immediately preceding and the one immediately following this season are also characterized by moderate productivity (Figure 5).

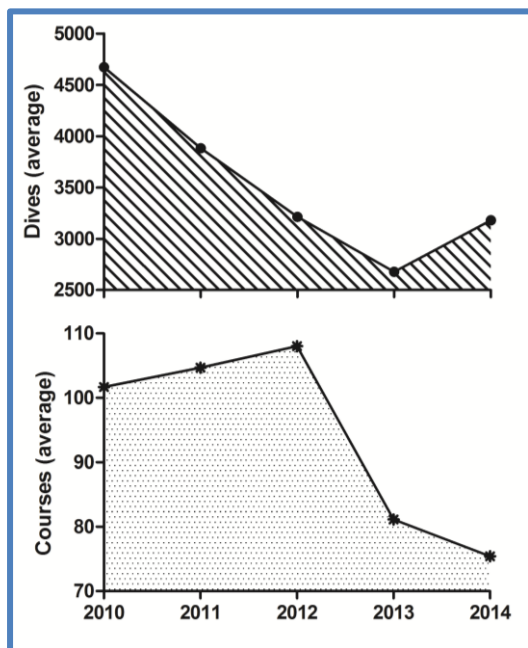


Figure 4. Reported charter productivity in the Portofino MPA from 2010 to 2014.

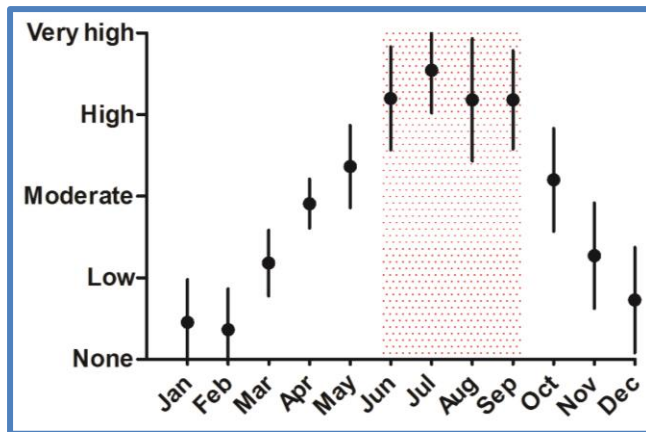


Figure 5. Reported seasonality of diving charters in the Portofino MPA.

### *Section C: Diving experience*

A full list of certifications/levels (184 in total) and respective certifying agencies (nine in total), as reported by the respondents, is provided in Table 1. Certifications/levels ranged from basic ones (Open, Advanced; 16 in total) to professional (Instructor; 62 in total), specialties (e.g. Night diving; 75 in total), technical (e.g. Trimix; 25 in total), and out of water (e.g. Gas blender; six in total). The certifying agency issuing the most certifications and levels was PADI (129 certifications/levels), followed by TDI, SSI, and UTD (13, 12, and 11 certifications/levels, respectively). Other certifying agencies included TSA, ISA, NASDS, DSAT, and FIAS.

The respondents had logged 3527 dives on average, with the total number of dives logged ranging from 800 (second youngest respondent) to 10,000 (oldest respondent). The respondents claimed to have been diving for 22 years on average, although years of diving ranged from 12 to 54. They had been diving at their respective business for an average of 7 years, ranging from zero (only just started) to 18. On average, the respondents were logging 134 dives per year, ranging from 50 to 275. Most of these dives were being logged in the Portofino MPA (112 on average). Number of dives logged and years of diving were not necessarily related to age of the respondents. For instance, the youngest diver (31 years old) claimed to have dived for 26 years and to have logged a total of 3000 dives, more than some older respondents. Further, younger divers tended to log many more dives per year compared with older divers (up to over twice as many).



Table 1. Total number of certifications/levels reported by the participants.

Course/Level	Certifying Agency	Group 1: Open, Advanced	Group 2: Professionals	Group 3: Specialities	Group 4: Technical	Group 5: Out of water
Advanced	PADI	8				
Base	FIAS	1				
Boat diver	PADI+SSI			2		
Buoyancy	PADI+TDI+UTD			3		
Cave	PADI			1		
Communication	PADI			1		
Course director	PADI		1			
Deep	PADI			4		
Deep	PADI+TDI+UDT			3		
Deep air	TSA				1	
Digital underwater photography	PADI			2		
Digital underwater photography	PADI+SSI			2		
Divemaster	PADI		6			
Divemaster	NASDS		1			
Dive propeller vehicle	PADI+TDI+UTD				3	
Dry suit	PADI			4		
Emergency first response	PADI			4		
Equipment	PADI			1		
Essential UTD	UTD				1	
Extended range	TDI				1	
Full face mask	PADI				1	
Gas blender	PADI+TDI+UTD					3
Gas blender	TDI					1
Instructor	PADI		4			
Instructor	PADI+SSI		4			
Instructor air	TSA		1			
Instructor buoyancy	PADI		1			
Instructor deep	PADI		2			
Instructor dry suit	PADI		2			
Instructor DUP	PADI		1			
Instructor EFR	PADI		3			
Instructor foundation	UTD		1			

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Instructor gas blender	PADI	1		
Instructor IDC staff	PADI	5		
Instructor IDC staff	PADI+SSI	2		
Instructor IDC staff	SSI	1		
Instructor naturalist	PADI	1		
Instructor navigation	PADI	1		
Instructor night diving	PADI	3		
Instructor nitrox	PADI	3		
Instructor open water	PADI	2		
Instructor peak performance buoyancy	PADI	1		
Instructor rebreather	TSA	1		
Instructor ReefCheck	ReefCheck Onlus	1		
Instructor search and recovery	PADI	1		
Instructor tec deep	PADI	1		
Instructor tec trimix	PADI	1		
Instructor technical	ISA	1		
Instructor technical	TSA	1		
Instructor trimix	TSA	1		
Instructor trimix advanced	TDI	1		
Instructor wreck	PADI	3		
Master instructor	PADI	2		
Master scuba diver	PADI		1	
Master scuba diver trainer	PADI	1		
Naturalist	PADI		1	
Naturalist	PADI+SSI		2	
Navigation	PADI		1	
Night diving	PADI		3	
Nitrox	PADI		4	
Nitrox	PADI+TDI+UTD		3	
Nitrox	PADI+SSI		2	
Nitrox advanced	TSA			1
Oxygen provider	PADI			2
Open water	PADI	7		
OTI*	Marco Polo*			1
OTS*	Marco Polo*			1
Peak performance in buoyancy	PADI+SSI		2	

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Photo	PADI+TDI+UTD	3	
Rebreather	TSA		1
Rescue	PADI	6	
Rescue	NASDS	1	
Scooter sub	PADI		1
Search and recovery	PADI	2	
Search and recovery	PADI+TDI+UTD	3	
Search and recovery	PADI+SSI	2	
Side mount	PADI+TDI+UTD		6
Specialities	PADI	1	
Specialities	PADI+SSI	2	
Tec 50	PADI		1
Tec deco	ISA		1
Tec deep	PADI		1
Tec diver	DSAT		1
Tec trimix	DSAT		1
Trimix	ISA		1
Technical	PADI		1
Wreck	PADI	4	
Wreck	PADI+TDI+UTD	3	
Wreck	PADI+SSI	2	

\* OTI and OTS fall under the category of commercial certification. Marco Polo is not a certifying agency but an academy.

### *Section D: Perceptions on the diving 'system'*

A summary of the responses given to the last section in the questionnaire is provided in Table 2. On a personal level, the respondents felt that scuba diving greatly influences and has a positive impact on their lifestyle. Generally, the respondents supported the growth of the scuba diving industry.

Moving on to the social realm, on the one hand, the respondents agreed that the scuba diving industry has a number of positive (tangible such as money, and intangible such as popularity) impacts on the local community and that it acts in respect of the local community. On the other hand, the respondents felt that not only the potential of the diving industry is underestimated, but also the local community does not support the diving industry. Concerning economic aspects, the respondents believed that the scuba diving industry generates employment and opportunities for local businesses to make money. The industry also generates revenue that is employed by the local authorities to manage the MPA.

With regard to environmental matters, the respondents believed that the scuba diving industry does not cause negative environmental impacts. Instead, they agreed that it promotes conservation and environmental education. There were mixed views concerning the role of the industry in waste management (either affecting waste management indirectly, or being actively involved in litter picking initiatives). The respondents believed that industries other than scuba diving may be causing negative environmental impacts in the MPA.

The respondents tended to have mixed views about the role of the MPA with respect to the diving industry and in relation to management. They agreed that the industry benefits the MPA. However, they tended to be unsure that the industry is being either properly managed or supported by the MPA. Also, they tended to agree that the MPA does not treat all MPA users equally. The respondents agreed that the diving industry has several concerns and that it is open to exchange and communication. However, they were unsure about the effectiveness of communications between the diving industry and the MPA, the public, and scientists. They also agreed that bureaucracy currently hampers the proper functioning of the industry.

Moving to opinions on science, the respondents agreed that scientific research benefits the scuba diving industry, and that concerns of the industry are normally addressed by scientists. However, they tended to be unsure regarding the representativeness of the industry in scientific research, and the proper understanding and exchange of information between the industry and scientists. There was also a mixture of agreement and disagreement concerning the active involvement of the industry in research. The respondents were positive that multi-disciplinary consortia can be a good approach at

analyzing the diving system, and that the industry could use assistance of a variety of scientific disciplines, such as Information Technology.

The respondents were generally positive about the ability of diving operations in the area to cooperate and promote their business. However, they also agreed that some businesses may not act in respect of one another, and that competition may exist between the diving industry and other industries in the MPA.

With regard to diving tourism, the respondents agreed that diving tourists care about the marine environment of the MPA, although it is not always guaranteed that they follow proper diving etiquette and that they are fully aware about safety procedures. They agreed that while diving does not attract too many visitors to the area, the dive sites tend to become overcrowded during the diving seasons. The respondents felt neutral about the idea that the clientele puts them under pressure.

Table 2. Summary of respondents' perceptions on the diving 'system'.

Fully agree						
Somewhat agree						
Neutral						
Somewhat disagree						
Fully disagree						
	%	%	%	%	%	
<b>PERSONAL</b>						
1. Scuba diving is the reason why I live here	0	0	9	18	73	+
2. Scuba diving defines who I am	0	0	18	36	46	+
3. My business positively affects me and my personal quality of life	0	0	0	64	36	+
4. I support the growth of the scuba diving industry	0	9	0	45.5	45.5	+
<b>SOCIAL</b>						
5. The scuba diving industry benefits overall management of towns/municipalities of the area	0	0	0	27	73	+
6. Scuba diving has more positive than negative impacts in the area	0	0	0	36	64	+
7. The potential of the scuba diving industry is generally underestimated	0	0	0	18	82	+
8. The scuba diving industry supports the local community	0	9	9	46	36	+
9. Revenues generated by the scuba diving industry are used to the benefit of the local community	9	0	9	82	0	+
10. The scuba diving industry acts in total respect of the local community	0	9	18	64	9	+
11. The scuba diving industry is supported by the local community	55	36	0	9	0	--
12. The local community recognises benefits in the scuba diving industry	45.5	45.5	0	9	0	--
13. The local community takes common initiatives to support the local economy	36	46	9	9	0	--
14. The local community is involved in marketing to promote scuba diving	55	27	0	9	0	--
15. The local community takes common action to promote touristic packages including local businesses	45.5	45.5	9	0	0	--
16. The local community cares about the state of marine environments in the area	18	46	18	18	0	--
17. Scuba diving creates leisure opportunities for people	0	0	0	18	82	+
18. Scuba diving forms part of the "heartbeat" of this area	9	9	18	18	46	+
19. Scuba diving makes this area popular	0	0	0	45	55	+
20. This area is a world class destination for scuba diving	0	0	0	45	55	+
<b>ECONOMIC</b>						



21. The scuba diving industry creates employment	9	0	9	27	55	+
22. Scuba diving creates more opportunities for local businesses	9	0	0	36	55	+
23. The scuba diving industry ensures the maintenance of infrastructure and services in towns/municipalities of the area	0	0	46	36	18	+
24. The scuba diving industry competes with cultural traditions of the area	9	18	37	9	27	mix
25. The scuba diving industry increases property and accommodation value in the area	0	0	36.5	27	36.5	+
26. The scuba diving industry increases the total cost of living in the area	36.5	18	36.5	9	0	--
27. The scuba diving industry generates more income for this area	0	0	0	45	55	+
28. The scuba diving industry generates revenue for conservation/environmental management	0	0	0	36	64	+
29. Revenues generated by the scuba diving industry benefit environmental protection	0	0	9	36	55	+
<b>ENVIRONMENT</b>						
30. The scuba diving industry improves waste management (discharge, collection) in the area, both directly and indirectly	27	18	27	9	9	--
31. The scuba diving industry promotes conservation in the area	9	0	0	45.5	45.5	+
32. The scuba diving industry promotes environmental education in the area	9	0	9	46	36	+
33. The scuba diving industry is actively engaged in litter picking	27	9	18	46	0	mix
34. Scuba diving has caused reductions in wildlife abundance and diversity in this area	73	18	0	0	9	--
35. Scuba diving has clear negative impacts on the environment in this area	82	9	0	0	9	--
36. Scuba diving increases pollution in this area	64	27	0	0	0	--
37. Industries other than scuba diving have clear negative impacts on the environment in this area	9	18	18	37	18	mix
<b>GOVERNANCE (MPA)</b>						
38. The scuba diving industry benefits the MPA	0	0	0	9	91	+
39. The scuba diving industry benefits good management of the MPA	9	0	9	27	55	+
40. The scuba diving industry is well managed by all interested parties	9	37	27	18	9	mix
41. The scuba diving industry pays the same fees to the MPA as any other MPA user	55	9	18	9	9	--
42. The fee that the scuba diving industry pays to the MPA is worth the support received from the MPA	18	36.5	36.5	0	9	--
43. The MPA works to improve the quality of diving	9	27	37	9	18	--
44. The MPA takes action to promote the sustainable development of local businesses directly dependent on it	0	9	55	27	9	+
45. The MPA takes action to promote sustainable tourism in the area	9	18	46	18	9	mix
46. The MPA firmly enforces diving safety rules	9	46	18	18	9	mix
47. The MPA firmly enforces proper diving etiquette	9	37	27	18	9	mix
48. The MPA takes a holistic approach at managing the scuba diving industry	9	9	36	46	0	+

49. The scuba diving industry is under pressures from the MPA	18	0	27	46	9	+
50. The MPA favours other industries (e.g. fishing) before scuba diving	9	9	37	9	27	mix
51. Requests and concerns of the scuba diving industry are addressed by the MPA	9	9	36.5	36.5	9	+
52. The scuba diving industry is actively involved in management of and planning for dive sites	9	27.5	18	27.5	18	mix
53. Revenues generated by the scuba diving industry for the MPA are re-invested in the industry by the MPA	27	0	46	18	9	mix

**COMMUNICATION**

54. The system currently in use to report details about the scuba diving industry to the MPA is effective	18	18	27.5	27.5	9	mix
55. Communication between the scuba diving industry and the public is effective	27.34	18	27.33	27.33	0	mix
56. Communication between the scuba diving industry, authorities (including the MPA), and scientists is effective	0	36.5	27	36.5	0	mix
57. The scuba diving industry is open to communications aimed to solve different issues in the system	0	0	45.5	45.5	9	+
58. The scuba diving industry has many concerns	0	0	0	27	73	+
59. Bureaucracy hampers the functioning of the scuba diving industry	0	0	9	9	82	+

**SCIENCE**

60. Scientific research is beneficial to the scuba diving industry	0	0	0	18	82	+
61. Requests and concerns of the scuba diving industry are addressed by scientists	9	0	27	46	9	+
62. The scuba diving industry is actively involved in research	18	18	18	37	9	mix
63. Scientists take a holistic approach when analysing the diving system	9	9	64	9	0	mix
64. The scuba diving industry is well-represented by scientists	9	18	37	18	0	mix
65. There are enough knowledge and exchange events between scientists and the scuba diving industry	9	55	18	18	0	--
66. Scientists promote marine environmental education in the area	9	9	37	27	9	+
67. The scuba diving industry is misunderstood by scientists	9	27	27	27	0	mix
68. The scuba diving industry is under pressures from scientists	18	46	27	0	9	--
69. There are disciplines (e.g. Information Technology) that the scuba diving industry would like the assistance of	9	9	27	37	18	+
70. Multidisciplinary consortia can represent a good approach at analysing the diving system	0	0	27	46	27	+

**COOPERATION / PROMOTION**

71. Operations/businesses in the industry are cooperative	18	9	18	55	0	+
72. Operations/businesses in the industry act in full respect of one another	18	46	27	0	9	--
73. The scuba diving industry makes use of marketing to promote itself	0	18	18	37	27	+
74. The scuba diving industry makes use of social media	0	0	0	36	64	+
75. The scuba diving industry is in competition with other industries	9	27.5	18	18	27.5	mix

**TOURISM**

76. Diving tourists care about the marine environments in this area	0	0	36.5	36.5	27	+
77. Scuba diving attracts too many visitors to the area	64	27	0	9	0	--
78. Dive sites in the area are overcrowded during the diving seasons	0	18	9	36.5	36.5	+
79. Diving tourists follow proper diving etiquette	0	27	18	55	0	mix
80. Diving tourists are fully conscious about safety procedures during diving operations	9	27	18	37	9	mix
81. The scuba diving industry is under pressures from customers	18	9	46	9	18	mix

## FOCUS GROUP SESSION

The same people who participated in the questionnaire survey also took part in the focus group session. A summary of the outcomes of the session (extracted from both keywords and notes) is provided below.

*Station 1: Theme 1: Society. Question 1: How would you describe the relationship between your activity/operation and society (local community and the general public), and what would you change?*

The respondents identified a series of issues in regard to their relationship with the local community, including the local businesses. First of all, they voiced a concern regarding the lack of support that the diving industry receives from the hospitality sector. According to the respondents, hotels wish to attract high-expenditure tourists, thus paying less attention to the lower-expenditure group that characterizes diving tourists. Apparently, the hospitality sector is not even aware of the existence of a promontory of Portofino; therefore, they fail to promote their area appropriately to incoming tourism. Further, hotels, restaurants, and diving businesses seem not to be able to come to agree on mutually beneficial plans that will incentivize diving tourism. Some diving businesses have attempted to come up with ways to collaborate with the hospitality sector, but without any success. In a way, diving businesses seem to be a nuisance to the hospitality sector, given that it attracts an unwanted type of clientele. This clientele is seen as “ugly, dirty, fat, noisy, and wet”. Given that hotels tend to stay open only for five months of the year, they should exploit collaborations with diving businesses by staying open and catering for the diving clientele. However, potential collaborations are made difficult by a number of problems; for example, hotel bookings made by the diving clientele are “weather-dependent”, meaning that divers may cancel a booking at the last minute due to unfavorable weather conditions, and since hotels tend not to ask for a deposit, they lose money. The respondents suggested that hotels should adopt a “ski resort mentality”, asking for a deposit when a booking is made, so as to protect their interests. The respondents also suggested that hotel prices should be more reasonable and standardized. However, they affirmed that hotels would rather stay empty than lowering their rates.

The respondents also claimed that the flourishing of the industry is hampered by poor promotion not only on behalf of the hospitality sector, but also on behalf of agencies and touristic operations, which do not work with the diving industry to come up with touristic packets and offers that will include various products. It was acknowledged, however, that such package offers would not probably work in that most people coming to dive in Portofino live in nearby cities (e.g. Milan), and are only day visitors. As for those who come from further away, they are likely to be better off (in terms of costs and services) going to dive either in Malta or in the Red Sea.

The respondents also lamented not possessing a proper entrepreneur mentality themselves. They agreed not to promote their businesses enough. They suggested that they too should ask for a deposit when bookings are made by potential clients, or that perhaps they should offer clients the possibility to change their bookings and make use of vouchers. The respondents favored the mentality of foreigner tourists, who tend to pay for an advance as soon as they make a booking because they see it as a warranty that they can use as leverage. For the moment, business owners protect their interest by keeping a black list of all those potential clients who made a booking and then cancelled at the last minute. A possible way to overcome the lack of support from the hospitality sector would be to open dedicated hostels that can cater for diving tourists in terms of accommodation and food.

As for the local councils, these can be either supportive of the diving industry or unsupportive (as in the case of the Recco Council, which explicitly expressed a wish for no diving operation to be present in the area). It is possible that some local council does not support the industry based on previous negative experiences and the negative reputation of some divers. For example, Rapallo denied an application to open a diving business in a small harbor in the town. It is likely that this application was denied due to the fact that divers have a reputation for “making things dirty”. Some respondents voiced a concern regarding the lack of infrastructural support necessary to control the clientele. For instance, harbors and roads become increasingly crowded and degraded, with no intention of the local council either to repair the existing structures there, or to enlarge the area, or to establish zoning for activities. Some roads needed to access launching sites or dive schools are closed during festivals and other events, thus blocking access to diving facilities. Some structures (e.g. food outlets) can become overcrowded and too small to cater for large groups, which characterize diving tourism in many cases. Another issue related to infrastructure is the improper maintenance, when it is prescribed by the local councils. Workers are overpaid and do bad jobs, also becoming a nuisance for bathers and other users.

There was a generally shared view that the local community underestimates the great potential for tourism and financial revenue that comes from the diving industry, considering that over 50,000 people per year come to dive in the MPA. Instead, localities do not offer alternative tourism forms and attractions (e.g. night life) aside from diving, thus missing out on the possibility to increase/improve tourism and employment. Further, the respondents claimed that there is a general misperception and lack of cultural knowledge on behalf of the public regarding diving, as it is seen as a less-known sport (certainly not as well-known as soccer or cycling) which is spoken of only when there are incidents and fatalities. On a broader geographical scale, the region Liguria was claimed to be generally neglecting the diving industry, not even mentioning it when promoting itself internationally. The respondents saw a potential solution to these misperceptions in the attraction of political favor through votes.

*Station 1: Theme 2: Governance (MPA). Question 2: How would you describe the relationship between your activity/operation and the MPA, and what would you change?*

The respondents identified a series of issues in regard to their relationship with the MPA. First of all, the MPA was rightfully viewed as being characterized by a variety of entities, yet these entities were seen as lacking a common denominator who would become the interface with the diving industry. The respondents claimed that although the MPA receives national funding, its greatest income is generated by the diving industry, with a total of Euro 100,000 in tax alone. Therefore, the role of diving businesses is fundamental to the MPA, yet why is there no representation from the diving industry in the board of the MPA? There should be representatives from various MPA users (including also the fishing industry) in the board, although all users should have to pay taxes to the MPA, when currently this is not the case. The respondents lamented that key users within the MPA, including the ferry and fishers, do not pay tax to the MPA. Ferry businesses could simply add a few cents surcharge to passenger fees (passengers amount to 200-300,000 people yearly), thus being able to easily pay taxes to the MPA. Also scuba divers (the clientele) should pay a tax to the MPA, perhaps by means of membership (e.g. annual card), which is a common thing overseas. There used to be a system in place for ferry owners, whereby people were to buy a scratch ticket and show it upon request. However, this system failed due to a number of cheats (people reusing the tickets) and other problems (the tickets would get wet). The respondents agreed that there are a few fishers and they are not necessarily a cause for concern at the moment. However, they found it ironical that fishing is allowed in the MPA. Also, they claimed that fishers have more political “weight” and that they tend to be less controlled.

The respondents continued by saying that the services provided by the MPA are questionable but good enough. They admitted that indeed if it was not for the MPA, their business would not exist, and that the MPA has ensured a tangible increment of fish since it was established. While originally most diving businesses were against submitting diving registers, now they seem to be fine with it. The registers are controlled by external people who are unlikely to cause a conflict of interests. Generally, the MPA was viewed as being quite open, although its openness may also depend upon new diving licenses that will be issued in the future. The MPA was seen as attracting people, although it should be better promoted and advertised.

On another note, the respondents indicated that the MPA should be bureaucratically more strict (apply stricter deadlines for payments, stricter rules, paperwork). Users who abide to the rules of the MPA should be rewarded, whilst those who do not should be punished. Further, there should be better rules aimed to protect the safety of divers. For instance, boat traffic over diving areas should be better controlled (e.g. by means of speed limits). Currently, complaints made to the MPA concerning this particular issue are not being addressed. MPA guards do not seem to have much knowledge concerning diving, hence also



concerning diving safety. However, there are some rules in place concerning the distances between fishers and divers, with fishing nets having to be at least 100 m away from diving buoys. Nevertheless, the respondents were worried regarding the lack of efforts and limited numbers of MPA guards, especially during the diving season, when accidents and misconduct events are more likely to occur.

*Station 2: Theme 3: Economy. Question 3: How would you describe the economic state of your activity/operation, its financial contribution to society and conservation, and what would you change?*

The respondents began by mentioning how the current period of economic recession has affected negatively those diving businesses operating within the Portofino MPA. This has forced diving businesses to start reducing their management costs, with a consequent decrease in service quality and possible degradation of the image of diving businesses (e.g. some businesses end up breaking rules of carrying capacities per diving vessel). In many cases, businesses lose money.

The respondents felt that the economic status of their business is affected by a series of other factors, for instance the way people view their business. People should bear in mind that a diving operation constitutes a real business, and not merely a group of people diving for passion or hobby. Other factors influencing the economic status of the diving business are climate and seasonality. In the Portofino MPA, the most business is centered on weekends and holiday periods.

It was noted that among diving businesses, those that managed to better survive are the ones that have been diversifying their activity spectrum, for example by opening a diving shop or operating through on-line activities. While all businesses incur fixed costs (equipment, MPA, traveling) which are currently very high and therefore impact the service negatively, some businesses manage to retain a high service quality. Normally, an experienced scuba diver would notice whether his/her business is not delivering a good service, and whether his/her staff are poorly formed and qualified.

The respondents went on to explain that the type of tourism characterizing the Portofino area has an impact on their business. For example, they believed that tourism in Santa Margherita Ligure currently appeals to an older demographic, and they complained that local businesses do not make an effort to attract different groups. They explained that the clientele of their diving businesses is not actually composed of people from the region (Liguria), but it is principally made of people coming from outside the region, mostly Milan and Turin. These people tend to come to Portofino through tours organized by their own tour guides and agencies back home.

There was a general complaint on behalf of the respondents concerning the poor marketing of the Portofino MPA on behalf of local authorities and businesses. For example, there is a

lack of adequate provision of information on the touristic activities that visitors can engage in in the area. Also, many of the hotels in the area do not even know of the existence of a diving industry in the area. Lack of infrastructure (e.g. roads connecting the nearest airport with the nearest city to the MPA) makes the area less accessible, therefore less attractive. Further, the lack of a proper dialogue network between diving businesses, institutions, and the MPA hampers the divulgation of information concerning diving activities in the area. This lack of dialogue may be dependent on misperceptions of diving businesses on behalf of local businesses. Diving businesses are seen as a “disturbance” group, while they contribute a good proportion of the tourism-generated revenue. At any rate, it appears that local businesses do not wish to collaborate with diving businesses. For example, hotels keep their rates too high to be affordable to diving tourists (this was also pointed out in answer to Question 1 on Society). Also, there are no integrated offers that will include families accompanying divers. When clients go scuba diving, accompanying spouses and children do not have much to do. Finally, lack of adequate infrastructure (e.g. a launching point dedicated to scuba diving businesses in the marina) makes the business more difficult in general.

The respondents pointed out that while the broader diving industry would be expected to assist businesses in some way, it does not do that. They lamented that the industry makes use of businesses to promote its products, yet without facilitating them or assisting them.

Finally, the representatives explained that there is currently no system in place that can assist diving businesses in obtaining national contributions for entrepreneurship activities. According to them, the local councils should take it upon themselves to provide assistance to businesses in applying for and obtaining such contributions.

The respondents came up with a series of possible solutions to alleviate the current economic state of their businesses. For example, they proposed price standardization. They proposed that local councils establish an informative program that can assist entrepreneurs to apply for and obtain national contributions. They supported the idea of a better communication network between all local businesses to promote tourism and activities. They suggested that it would benefit diving businesses to receive some sort of national recognition or status (also for instructors and guides), which would help their identification. They proposed the establishment of diving unions, which can protect the interests of diving businesses. Diving unions could also take the responsibility to assist diving businesses in the search for national contributions, which otherwise would be a job for the local councils. Finally, they proposed that in order to improve relations with the MPA, one representative in the board of the MPA should be a diving business representative.

*Station 2: Theme 4: Non-monetary value. Question 4: What are the non-monetary aspects that add value to your activity/operation, and what would you change?*

The respondents mentioned that the esthetics of the landscape in the Portofino MPA certainly add value to their business. Also, they acknowledged that the presence of an MPA and a terrestrial park have great value and allow their businesses to exist.

*Station 3: Theme 5: Environment. Question 5: How would you describe the relationship between your activity/operation and the environment/conservation (mostly marine but also terrestrial), and what would you change?*

The participants generally identified the importance of keeping the marine environment in good conditions, as it has an impact on their business. They also acknowledged that conservation is important, and they see confirmation of this in the significant improvement that the establishment of the MPA has caused to the marine environment. There has been an increase in the biodiversity and in water quality. A major goal achieved by the MPA was the prohibition of anchoring.

The respondents believed that diving activities do not have an impact on benthic organisms, except for structurally complex species, such as *Eunicella* spp. There are a number of standards and protocols (e.g. condition of compressor, emissions of boat, safety) that diving operations and businesses should establish, the fulfillment of which could represent a signal of quality and should be rewarded with a certification of service quality.

The respondents voiced a concern with regard to lack of collaboration between the diving industry and activities on land, including the Regional Terrestrial Park, to organize touristic packages that would include activities in both the MPA and the terrestrial part of Portofino (e.g. climbing and diving). Generally, diving is not considered as a typical activity in the area like all the others in terms of legislation and control. Further, the respondents identified a lack of coordination and communication between diving centers that work in the MPA.

It was noted that there is limited control of the area on behalf of the MPA, mainly on behalf of the coastguards (this was noted also in answer to Question 2 on Governance). In fact, there are a number of illegal activities taking place within MPA borders, particularly fishing and recreational boating. Further, the respondents claimed that there is insufficient information available to visitors regarding the MPA's regulations and prohibitions.

*Station 3: Theme 6: Science. Question 6: How would you describe the relationship between your activity/operation and the sciences (from environmental to social and economic) and what would you change?*

The respondents stated that science plays a significant role in diving activities, particularly in tech-diving (e.g. medical issues and protocols, information on symptoms, safety). This role has become greater over the last ten years. Diving business representatives agreed that there should be more interaction with the sciences, for example for the purpose of monitoring protected and invasive species and habitats in the MPA.

The respondents appreciated their participation in ReefCheck Onlus (citizen science web tool), and agreed that it is important for their education and for the education of divers on the marine environment. Some diving businesses have also participated in other campaigns presenting the beauty of the marine environment with photos and videos. However, many diving instructors who do not have a biological/ecological background tend to feel neglected in the citizen science process. A challenge to face with citizen science is that it is difficult to keep all the diving clientele interested in a monitoring project. Another challenge is that clients tend to stay for short periods of time in the MPA, mostly due to the high accommodation costs in the area.

The respondents stated that they appreciated special conservation-oriented events organized by the MPA, such as the Grouper Day, where volunteering divers count and measure the grouper *Epinephelus emarginatus*. They felt that they would like to establish and advertise more events such as this in relation to the marine environment and environmental awareness.

The respondents agreed that the technological advances that combine diving with photography and video have increased the capacity of the diving sector, both in terms of clientele and in terms of promotion of the marine environment. However, they stated that applying innovating technology has a high cost, and that tools, software, and equipment are changing rapidly.

## **DISCUSSION AND CONCLUSIONS**

The aim of the questionnaire survey and focus group discussion was to take a 'first dive' into the exploration of the diving industry and the diving 'system', primarily from the perspective of business owners and managers in the industry itself. In this specific case, the case study of the Portofino MPA and the diving businesses operating within it were considered. The data collected represented opinions and views concerning themes underlying the three main pillars of sustainability, namely social, environmental, and economic. The results of this first analysis provide information which will be useful in the formulation of new assessments throughout the course of Green Bubbles.

The collection of relevant information from key stakeholders within the diving industry constitutes a critical step in, if not the basis for, any approach aimed to assess the diving 'system'. Diving charters owners and managers tend to be a critical interface between diving tourists, diving operators, researchers, citizen scientists, the relevant authorities (in this case the MPA), various markets (e.g. technology), local communities (e.g. local businesses and municipalities), and the environment. Therefore, they form part of that group of key stakeholders in the diving industry that deserve particular attention.

A number of relevant themes and issues emerged from this exploratory study. The results from the questionnaire survey indicate that diving business owners viewed scuba diving as an industry which brings many benefits to the environment, to the authorities (the MPA), to the local community, and to society at large. However, they did not feel that the industry is receiving as much support from the local community as it should. Their views on governance were mixed, with uncertainty regarding the proper management of and attention towards the industry on behalf of the MPA. Their perceptions regarding communication with authorities, scientists, and the community pointed to a lack of a proper communication framework. For instance, while recognizing the importance of science for the industry, they also disagreed with the idea that relations between the industry and scientists are smooth and fruitful. At any rate, there seemed to be a good predisposition towards multidisciplinary approaches aimed to analyze the diving 'system' and assist the diving industry.

The focus group discussion allowed some of the abovementioned themes to reemerge and be elaborated. One of the most voiced concerns on behalf of charters representatives was the lack of a support framework on behalf of the local community, even in spite of the economic recession, which should stimulate cooperation between local businesses. Unstandardized management approaches of the MPA appeared to be a relevant issue, with the lack of proper law enforcement and regulations during the diving seasons being one of the main concerns on behalf of charter representatives. The representatives expressed appreciation for citizen science initiatives and events that allow them to become actively involved in environmental monitoring, conservation, and increasing environmental awareness among divers. However, there are still some challenges to face in order to increase commitment towards citizen science. In general, there was a desire to be more actively involved in the management of the MPA, as well as to receive proper acknowledgment, recognition, and 'status' at the national, regional, and local levels.

The results reported here can constitute a solid ground from which new assessments and investigations can be based. The issues emerged in this instance point to the need to further explore a number of aspects in the diving 'system' including, among others: 1) Social impacts; 2) Social support (including local communities, local businesses, municipal authorities, regional authorities, and national authorities); 3) Governance (MPA); 4) Economic impacts; 5) Citizen science; 6) Scientific support; 7) Environmental and ecological impacts; 8) Marketing approaches; 9) Business models; 10) Communications; and 11) Tourist behavior; 12) Operation risks and safety; and 13) Quality of life.