

Master's thesis



Evaluating the Role of Staff Engagement in Management Effectiveness Evaluations of Marine Protected Areas

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Declaration

I hereby confirm that I am the sole author of this thesis and it is a product of my own academic research.

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Abstract

Considerable effort is directed to the development and implementation of marine protected area (MPA) management plans, but unless the management measures identified in that plan achieve their intended goals, they may have little value in conserving and protecting the MPA's resources and qualities. To evaluate whether the MPA is or is not achieving its management plan goals, a management effectiveness evaluation (MEE) of marine protected areas must be conducted. Through the MEE, both positive and negative experiences can be used as opportunities for learning, and continuous improvement can be combined with anticipation of future threats and opportunities. Today, there is a growing awareness in the Mediterranean MPA community that evaluating MPA management effectiveness, and applying the results of those evaluations, can help provide more effective protection of the Mediterranean coastal and marine resources. To evaluate management effectiveness, many different approaches and methodologies are used around the world and they vary considerably in their scale, depth, duration, and data collection methods. Therefore, built on past methodologies and the experience of Mediterranean MPA managers, a new MEE methodology has been developed to address the need for a standardized approach to MEE specifically adapted to the Mediterranean context. This "Guide for Quick Evaluation of Management in Mediterranean MPAs" (QEM-Med Guide) has been implemented in eight Mediterranean MPAs. Analysis of application of QEM-Med Guide in the eight testing MPAs have suggested that sharing the tool and its results is of outstanding importance, but sharing has not been achieved, which means that sharing is lacking and it must be improved. Therefore, this thesis specifically evaluates the role of staff engagement in the MEE process through an online follow-up survey that assessed and evaluated the experience of the people involved in the implementation and coordination of the QEM-Med Guide. The purpose of this study was to determine if greater active MPA staff engagement in MEE process can improve its implementation efficiency, facilitate and encourage the sharing of results, and create a culture of evaluation that promotes and values evaluation as an ongoing and essential part of implementation of a site management plan. The results of this research offer support to the idea that there should be greater

active engagement of MPA staff in the MEE process and it should not be the work of a few people. Findings suggest that greater active MPA staff engagement in evaluation may lead to more efficient and effective implementation of such MPA evaluation processes. This also may be done through establishing and nurturing a culture of evaluation that expands opportunities for sharing information and ideas among the MPA staff regarding evaluating and improving management effectiveness. Additionally, greater staff engagement can start building social capital where MPA staff and stakeholders can then collectively foster an atmosphere conducive to greater collaboration and social learning. This can, in turn, increase resiliency and adaptability of marine protected area governance.

Keywords: MPA Management effectiveness evaluation, MPA staff engagement in the MEE process, a culture of evaluation in MPAs.

This thesis is dedicated to all the people who were part of it and who will have some use of it...

Table of contents

List of Figures	XII
List of Tables	XIII
Acronyms	XIV
Acknowledgements	XV
1 Introduction	1
1.1 Thesis goal and research question.....	3
1.2 Objectives of the study.....	4
1.3 Hypotheses	4
1.4 Structure of the thesis.....	5
2 Literature review	6
2.1 Marine Protected Areas.....	6
2.1.1 Importance of MPA Management Plans	7
2.2 Importance of MPA Management Effectiveness Evaluation.....	8
2.3 Marine Protected Areas and MEE in the Mediterranean	12
2.3.1 MedPAN and MedPAN North Project.....	14
2.4 Description of QEM-Med Guide	15
2.5 Results of Application of the QEM-Med Guide	17
2.6 Engagement of MPA staff in MEE process	18
2.7 Building Social capital	20
2.8 Importance of building Culture of Evaluation	22
2.9 Case studies.....	25
3 Research Methodology	27
3.1 Introduction.....	27
3.2 Online questionnaire	27
4 Results	30
4.1 Respondents profiles	30
4.2 MEE knowledge.....	31
4.3 MPA Staff Engagement in MEE.....	31
4.4 Internal/external coordination of the MEE	34
4.5 Evaluation with more MPA staff	36
4.6 Importance of evaluation.....	38
4.7 Sharing the MEE results.....	40
5 Discussion	42
5.1 The need for greater active MPA staff engagement in MEE process.....	42
5.2 Recognizing the importance of MEE and sharing it results.....	44
5.3 Research limitations and future research	49
6 Conclusion	52
7 Recommendations	55
References	57
Appendix A	61

List of Figures

Figure 1. <i>The IUCN–WCPA Framework for assessing management effectiveness of protected areas. Source: Hockings et al., 2006</i>	11
Figure 2. <i>MPAs case studies that implemented MEE using QEM-Med Guide</i>	25
Figure 3. <i>Respondents stated familiarity, prior to the conduct of the evaluation, with QEM-Med Guide methodology and implementation process</i>	31
Figure 4. <i>Having enough MPA staff to assist in MEE and sufficient access to MPA staff</i>	33
Figure 5. <i>MPA staff provides information about MPA management for the MEE</i>	33
Figure 6. <i>Efficient and faster MEE if coordinated by someone experienced in MEE from outside MPA</i>	34
Figure 7. <i>MPA staff should coordinate the evaluation if coordinated primarily by an outside consultant</i>	35
Figure 8. <i>Satisfaction with the evaluation process in terms of MPA staff participation</i>	36
Figure 9. <i>Better to involving more MPA staff in next evaluation process?</i>	37
Figure 10. <i>Should more MPA Staff be actively involved in the MEE?</i>	37
Figure 11. <i>Involving more MPA staff in the MEE makes the process more efficient and effective</i>	38
Figure 12. <i>Importance of MEE before implementation</i>	38
Figure 13. <i>Importance of MEE after implementation</i>	39
Figure 14. <i>Recommendations led to changes in the way the MPA is managed</i>	39
Figure 15. <i>Possible recommendations incorporated into the MPA management plan</i>	40
Figure 16. <i>Importance of sharing MEE results</i>	41

List of Tables

Table 1. <i>QEM-Med Guide indicators for MPA management effectiveness evaluation, from Tempesta and Otero (2013)</i>	16
Table 2. <i>Considerations for internal versus external evaluators, from Pomeroy et al. (2004)</i>	20
Table 3. <i>Characteristics of strong culture of evaluation in an organization, from Mayne (2008)</i>	23
Table 4. <i>Total number of employees on MPA staff at the time the evaluations were being conducted and number of MPA staff assigned to assist in the conduct of MEE</i>	32

Acronyms

IUCN	International Union for the Conservation of Nature
MedPAN	Mediterranean Protected Area Network
MEE	Management effectiveness evaluation
METT	Management Effectiveness Tracking Tool
MP	Management Plan
MPA	Marine protected area
PA	Protected area
QEM-MED GUIDE	Guide for Quick Evaluation of Management in Mediterranean MPAs
RAPPAM	Rapid Assessment and Prioritization of Protected Area Management
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WCPA	World Commission on Protected Areas
WWF	World Wildlife Fund

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1 Introduction

*"It is our collective and individual responsibility to preserve
and tend to the environment in which we all live."*

— Dalai Lama XIV

Environmental awareness is an important component of achieving efficient and effective environmental protection. In other words, raising public awareness of the environment and engaging this more informed constituency in establishing and implementing management strategies to protect the resources they value will contribute to attaining this higher level of protection (Jones et al., 2011). In the times we currently live, coastal and marine ecosystems are in decline worldwide (UNEP, 2006). Increasing human populations, overfishing, runoff of nutrients and other land-based pollutants, habitat degradation and the increasing impacts of climate change are leading to ecosystem collapse in all the major coastal and ocean regions of the world (Wilkinson 2004; Hughes et al. 2005). Therefore, there is an increasing need for preserving our environment and our coastal and marine resources. Wood et al (2008) have suggested that one of possible tools for achieving this goal is marine protected areas (MPAs). To manage MPAs effectively and to measure how effectively MPAs are protecting the values and qualities of the places in which they were established, meeting their stated goals and objectives, evaluation of MPA management effectiveness is required.

This thesis research is focused on MPAs in the Mediterranean Sea and efforts of MPA management agencies to evaluate management effectiveness. Even though many of the northern Mediterranean MPAs have excellent management and can be considered as benchmarks for MPAs, others are facing demanding challenges (Gabrié et al., 2012). Threats and problems of many sites are common and they are associated with MPAs being degraded and destroyed, while other MPAs can be defined as “paper parks”, with little implementation or management to achieve their conservation objectives (Tempesta and Otero, 2013). Some lack adequate

management plans and information regarding resources they were established to protect. Most have inadequate human and financial resources, facilities and equipment to conduct basic, yet essential, functions like enforcement of regulations and surveillance (Gabrié et al., 2012). In addition, ecological and socio-economic monitoring is not a common practice in the Mediterranean (Gabrié et al., 2012). It has been suggested that the level of success and continuity over time depends on the size and capacity of the management teams, and their ability to work in appropriate conditions (Gabrié et al., 2012).

Today, there is a growing awareness in the Mediterranean MPA community that evaluating MPA management effectiveness, and applying the results of those evaluations to improve stewardship of these places, can help provide more effective protection of the Mediterranean coastal and marine resources. However, due to the large number of different approaches and methodologies for management effectiveness evaluation (MEE) in the Mediterranean MPAs (Tempesta, personal communication, September 24, 2013), some methodologies can appear confusing and sometimes out of context for local conditions, making implementation of any assessment difficult (Tempesta and Otero, 2013). To address this need for a standardized approach to MEE specifically adapted to the Mediterranean context, the MedPAN North Program developed a new MEE methodology (Tempesta and Otero, 2013). This “Guide for Quick Evaluation of Management in Mediterranean MPAs” (QEM-Med Guide) has been implemented in eight Mediterranean MPAs and the findings of these evaluations are currently being made available to public (Tempesta and Otero, 2013). Analysis of application of QEM-Med Guide in the eight MPAs where it has been implemented have suggested how sharing the tool, its results and future actions among MPA staff is of particular importance and that this evaluation should not remain the work of few people. These findings have also shown that sharing is lacking and it must be improved (Milena Tempesta, personal communication, September 24, 2013). Therefore, this thesis will specifically evaluate the role of staff engagement in MEE process, using the results of application of QEM-Med Guide and through follow-up survey to assess and evaluate the experience of the people involved in the implementation and coordination of this new guidance.

While MEE can provide useful results, the translation of these findings into tangible improvements of MPA stewardship is often lacking. Developing and maintaining a culture of evaluation within MPA management agencies, and the building of social capital between the MPAs and their various constituencies that derives from the active community engagement needed to conduct these processes, might be seen as a key to building more effective evaluation approach and sharing evaluation results among staff (and possibly with stakeholders) with understanding, compassion and trust (Mayne, 2008; Peck, 1987; Etzioni, 1991). Therefore, this thesis will also investigate importance of having social capital and culture of evaluation within MPA management agencies, or more precisely; what can be done to help build such a culture of evaluation and forge much deeper trust among MPA staff, community and stakeholders. A key for building social capital and culture of evaluation might well be hidden in greater active MPA staff engagement in MEE process.

1.1 Thesis goal and research question

The motivation for this study was to investigate how MEE is conducted in the Mediterranean MPAs and what can be done to make it more effective. As the idea was further developed, the published discussions of the experience of these MPAs that were engaged in MEE suggested that active MPA staff involvement in MEE process was limited, potentially reducing the opportunities for sharing the evaluation tool and results with and among the MPA staff (Milena Tempesta, personal communication, September 24, 2013). Consequently, the overall goal of this thesis was to determine if greater MPA staff engagement could enhance management effectiveness evaluations, particularly as regards those MPA sites in the Mediterranean implementing the QEM-Med Guide as a framework for their evaluation. Therefore, the main thesis question posed in this research is:

- *Can greater active MPA staff engagement in MEE process improve its implementation efficiency, help to share its findings and help create an evaluation culture that promotes and values evaluation as an ongoing and essential part of implementation of site management plan?*

1.2 Objectives of the study

To support above-mentioned overall goal and to answer the research question, the study has followed these specific objectives:

- To investigate importance and current state of MEE and MPA staff engagement around the world, with a focus on the Mediterranean MPAs
- To identify the potential value of having social capital and a culture of evaluation within MPA management agency with respect to MEE and the effective translation of the MEE findings into improving MPA stewardship
- To assess and evaluate the experience of people who were coordinating MEE implementing QEM-Med Guide with respect to MPA staff engagement in the evaluation process
- To make recommendations for future implementation of QEM-Med Guide in Mediterranean MPAs based on the findings of this research.

1.3 Hypotheses

Developed from the goal and objectives, the three null hypotheses being tested in this research are:

H₀ = Greater active engagement of MPA staff in the conduct of MPA effectiveness evaluations results in more efficient and effective implementation of effectiveness evaluation process.

H₀ = Greater active engagement of MPA staff in conduct of MPA effectiveness evaluation process expands opportunities for sharing of information and ideas among the staff regarding evaluating and improving management effectiveness.

H₀ = Greater active engagement of MPA staff in conduct of MPA effectiveness evaluation processes will help create and foster a “culture of evaluation” at the MPA that promotes and values evaluation as an ongoing and essential part of implementation of its site management plan through the adaptive management process.

1.4 Structure of the thesis

This study first presents a literature review of MPA management effectiveness evaluation and methodology, and particularly the QEM-Med Guide used for evaluation in the Mediterranean MPAs as part of MedPAN North project. The latter part of the study will present the survey methods used in this research, the findings of that survey, and a discussion of the survey findings with recommendations for future management effectiveness evaluations in Mediterranean MPAs.

2 Literature review

William Thomson (also known as Lord Kelvin) once said that “what doesn’t get measured doesn’t get done”. Considerable effort is directed to the development and implementation of MPA management plans, but unless the management measures identified in that plan achieve their intended goals, they may have little real value in conserving and protecting the site’s resources and qualities. To insure that these management measures are working as intended, the effectiveness of management of marine protected areas must be evaluated (Hockings et al., 2006).

2.1 Marine Protected Areas

Marine protected areas (MPAs) provide an example of a comprehensive and integrated approach to the management of coastal and marine areas. As of 2012, the number of MPAs, worldwide, was estimated about 10,280, covering 2.3% of the oceans’ total surface (Spalding et al., 2013). International Union for Conservation of Nature (IUCN) at the World Conservation Congress in October 2008 expressed the official definition for the term “marine protected area”:

“A clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values” (IUCN, 2008, p. 56).

Kelleher (1999) suggested that the two principal reasons for establishing MPAs are to protect habitats and biodiversity, and to help maintain viable fisheries, but there are a number of others, such as preserving outstanding examples of underwater cultural heritage. MPAs can be effective tools for providing protection, enabling restoration and ensuring sustainable use of natural resources. If MPAs protect sensitive environments and threatened species, they also may contribute to increasing the productivity of fishing areas, regulating the different uses of the sea and resolving conflicts among these uses, fostering sustainable tourism and creating new job-generating activities (Abdulla et al, 2008). In other words, MPAs can help in

protecting and saving our coastal and marine resources, but in order to achieve that, they need to be managed effectively and ensure the optimum outcomes are accomplished through Management Plan that is well thought through (Thomas and Middleton, 2003).

2.1.1 Importance of MPA Management Plans

As a management tool, planning helps MPA managers to define and then achieve the mandate of the MPA for which they are responsible. Management planning is an essential step towards ensuring the proper management of marine protected areas, but it is important to realize that management planning is a process and not an event (Thomas and Middleton, 2003). Management planning does not end with the production of a management plan, but continues through its implementation and requires ongoing monitoring to measure the effectiveness of targeted management strategies adopted in that plan to achieve management goals. Additionally, management planning provides a mechanism that can point out the threats, opportunities, strengths and weaknesses of objective condition of the natural resource and between involved parties. It also assists with solving problems and promoting discussion between involved stakeholders (Thomas and Middleton, 2003).

The management plan should address the entire marine protected area, including all the resources and qualities for which it was established, and it should contain information on what needs to be achieved by management and the rationale behind the management identified strategies (Thomas and Middleton, 2003). Successful implementation of management plans require clearly defined objectives (Ward and Kelly, 2009). The general objectives of the MPA management plan can include conserving habitats and ecological processes in order to preserve the value of the area for tourism, fisheries, research, education or other goals. Development of these plans frequently requires great investment of time and effort, with extensive public engagement (Thomas and Middleton, 2003). In the case of public involvement in preparation of the plan, Thomas and Middleton (2003) suggest that two audiences need to be involved: an external one

(local people, visitors, and other stakeholders), and an internal one (the MPA staff who will be in charge of plan's implementation). Basically, everyone who is affected by management of the MPA needs to be involved in preparing the MPA management plan. The management plan is much more likely to be implemented if the affected audiences are involved in its development and have a sense of "shared ownership" (Thomas and Middleton, 2003).

Management plans should never be considered "final." New knowledge revealed through management experience and monitoring will offer some additional issues, actions and approaches that require improvement. Therefore, it is immensely important that every single plan be flexible enough that managers can modify certain activities based on their experience and on new data received during the implementation phase (Salm et al., 2000). While the management plan is being implemented, monitoring and review can provide the feedback loop through which MPA managers can identify whether the plan is actually being implemented effectively and the objectives are being met, and thus adapt the management actions accordingly (Thomas and Middleton, 2003). A critical step is to measure effectiveness of management strategies and to revise those strategies in such a way that can yield the intended conservation outcome. To do this, management effectiveness evaluation must be conducted.

2.2 Importance of MPA Management Effectiveness Evaluation

Management effectiveness evaluation (MEE) is defined as "the assessment of how well protected areas are being managed—primarily the extent to which management is protecting values and achieving goals and objectives" (Hockings et al., 2006, p. 13). Additionally, evaluation of management effectiveness is recognized as "a vital component of responsive, pro-active protected area management" (Leverington et al., 2010, p. 4). In general, the evaluation of management effectiveness is achieved by the assessment of a series of criteria (represented by carefully selected indicators) against agreed upon objectives or standards. MEE

provides a more formal way for which successes and failures can be recognized and also helps MPA staff and MPA managers to understand how and why management practices are achieving or not achieving MPAs objectives (Pomeroy et al., 2004). As suggested by Leverington et al. (2008), in a broad sense, management effectiveness evaluation can: (1) enable and support an adaptive approach to management of protected areas; (2) assist in effective resource allocation between and within sites; (3) promote accountability and transparency by reporting on effectiveness of management to interested stakeholders and the public; and (4) help involve the community, build constituency, and promote protected area values. Even though MEE can contribute to achieving all of these objectives, it is possible that MEE that is useful for one purpose isn't necessarily as useful for another (Leverington et al., 2008).

Even though protected area (PA) managers have always been aware that they need to know the results of their management activities, and whether they are achieving the objectives for which they are managing, there has recently been considerable interest in developing evaluation systems for management effectiveness for protected areas (Child, 2004). To evaluate management effectiveness, many different approaches and methodologies are used around the world and they vary considerably in their scale, depth, duration, and data collection methods (Leverington et al., 2008). A global database on management effectiveness evaluation was compiled in 2005 with the first results published in 2008 (Stolton, 2008). The aim of this study was to strengthen the management of PA by assembling existing work on management effectiveness evaluation, reviewing methodologies, finding patterns and common themes in evaluation results, and investigating the most important factors that can lead to more effective management (Stolton, 2008). Since each individual evaluation is most likely to have a different focus, several complementary approaches to evaluating management effectiveness have been developed based on the World Commission on Protected Areas (WCPA) framework (Stolton, 2008). Today there are approximately 40 different evaluation methods that have been developed, most of them specifically for individual sites (Stolton, 2008). According to Leverington et al. (2008), some internationally recognized methodologies are: (1) Rapid Assessment and Prioritization of Protected Area Management (RAPPAM), (2) United Nations Scientific and Cultural Organization's Enhancing Our Heritage, (3) IUCN "How is

Your MPA Doing?”, (4) The Nature Conservancy’s Conservation Action Planning and (5) the WWF/World Bank Alliance’s Management Effectiveness Tracking Tool (METT). More than 6300 assessments from around the world were incorporated into the global database by the end of 2007 and some interesting observations have emerged, as reported in Leverington et al (2008). One observation was that Oceania has a high number of individual assessments, largely due to the extensive number of the park studies in Australia, which assessed most protected areas including some very small reserves. Secondly, the most widely used methodologies across the globe for management effectiveness evaluation, to date, are RAPPAM (over 1400 protected areas assessed) and METT (over 1000 protected areas assessed). RAPPAM and METT have been widely applied across Asia, Africa, Eastern Europe, and to a lesser extent in Latin America and Papua New Guinea. Additionally, Latin America has a far greater diversity of management effectiveness evaluation methodologies than anywhere else in the world (Leverington et al, 2008).

As mentioned above, with a wide variety of methodologies and many differences in MEE approaches, IUCN-WCPA published a global framework that helps to harmonize these differences and to provide some guidance in developing assessment systems to encourage basic standards for assessing and reporting management effectiveness in protected areas around the world (Hockings et al., 2000). This framework is based on six distinct stages or elements, in which management starts with gaining an understanding of the context of existing values and threats in the MPA in order to establish a vision, progresses through planning and efficient allocation of resources (inputs). Then, as a result of management actions (processes), produces products and services (outputs) that result in impacts or outcomes (Hockings et al., 2006). The framework for establishing evaluation and monitoring of protected area management is detailed in Figure 1.

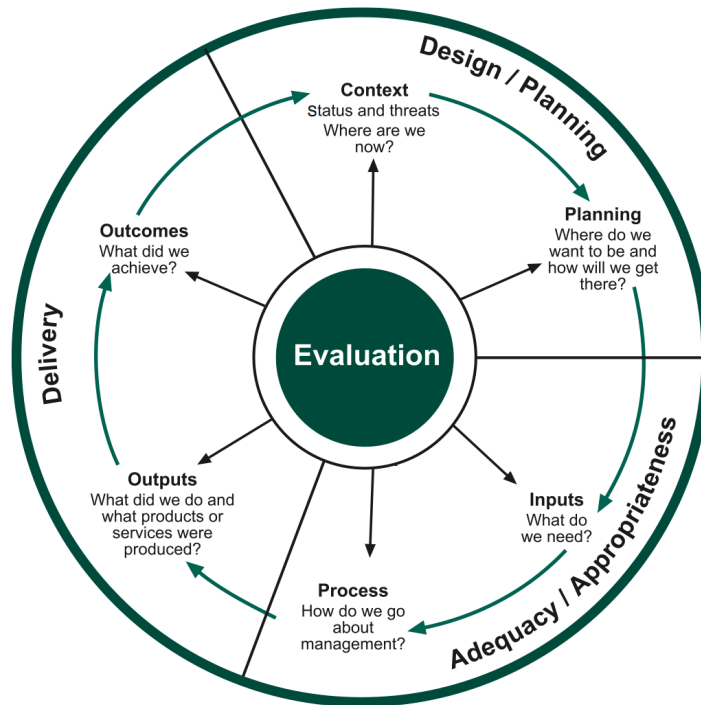


Figure 1. The IUCN–WCPA Framework for assessing management effectiveness of protected areas. Source: Hockings et al., 2006

The IUCN–WCPA framework has formed the basis for many evaluation systems around the world, and has been used for systematically assessing protected area management effectiveness at individual sites and at different regional levels (Hockings et al., 2006; Leverington et al., 2008). Today, there are many MEE methodologies that assess management of protected areas using questionnaires with indicators (Leverington et al., 2008). After data input and analysis, management effectiveness is rated based on scores for each indicator. Using different scoring systems (qualitative, quantitative, descriptive), results are used to rate the evaluation according to its purpose and/or the resources available. Using a combination of all of the scoring systems can give a more thorough individual analysis. In the end, if MEE has been conducted effectively, the results provide managers and stakeholders with a detailed analysis of progress toward achieving the goals identified in their management plans.

Management effectiveness results are needed to assist funding bodies and policy makers in highlighting problems and challenges, and are used to set priorities

which managers can use to improve their performance or report on achievements to senior managers, the government, or external stakeholders. The process of management effectiveness evaluation can also deliver a number of other benefits. For example, it can improve communication and cooperation between managers and other stakeholders. Communities, stakeholders, and civil societies need to establish how far their interests are being taken into account (Hockings et al, 2006). More generally, MPA managers need to understand what works and what does not, so they can fix whatever is not working, and continue to implement what is. Through MEE, both positive and negative experiences can be used as opportunities for learning, and continuous improvement can be combined with anticipation of future threats and opportunities (Leverington et al., 2010). Management effectiveness evaluation needs to be taken seriously and the usefulness of the evaluations depends on whether the results satisfy the objectives and provide meaningful recommendations that are specific to a particular management context. Perhaps more importantly, MEE is only worthwhile if the results are translated into improvements in meeting management goals, or revising those goals to better protect the MPAs resources and qualities. To evaluate the management effectiveness of MPAs, and any follow-up improvements, through a one-off assessment is a challenging and complicated task, but nevertheless MEE should be a regular, integral part of the management process because gathering information's regarding progress toward achieving management goals is essential for demonstrating improvements in management effectiveness (Hockings et al., 2006).

2.3 Marine Protected Areas and MEE in the Mediterranean

The Mediterranean Sea is an important ecological area because of the unique diversity of life in its waters, the high number of endemic species, and the critical areas for the reproduction of pelagic species. Through the past, over thousands of years, the Mediterranean region has experienced human development, settlement, commerce and resource exploitation. In the recent decades, increased human activity, such as fishing, tourism and coastal development, has been identified as the main driver of changes in biodiversity, combined with the exacerbating effects of climate change (Abdulla et al., 2008).

It has been estimated, by Gabrié et al. (2012), that the Mediterranean Sea encompasses 0.8% of the global oceans, however only around 4.6% of the Mediterranean surface is protected by 677 MPAs, constituting 6.6% of the world's total MPAs. In the Mediterranean, as well as worldwide, the type of protection applied in MPAs is variable and reflects the cultural and political differences between countries (Dudley, 2008). In the Mediterranean, as is the case more generally around the world, large differences among protected areas (in age, levels of use, visitor numbers, funding, size, management objectives, etc.) can be found (Nolte et al. 2010). Information on the actual level of protection afforded by the MPA designations is still limited and increasing evidence has been found to suggest that that some MPAs are still being degraded and destroyed, while many others are considered only “paper MPAs”, with little implementation or without any actual management structure to achieve their conservation objectives (Gabrié et al., 2012). Managing MPAs effectively in the Mediterranean is challenging. Some of the reasons behind these challenges include lack of management plans, insufficient information on natural resources, inadequate enforcement of rules and surveillance, as well as limited human and financial resources, facilities and equipment (Gabrié et al., 2012). Furthermore, ecological and socio-economic monitoring is not common practice in the Mediterranean (Gabrié et al., 2012). In response to this trend, greater effort and investment needs to be made to increase the effectiveness of marine protected area management (Tempesta and Otero, 2013). As a first step, management effectiveness must be measured, and results of these evaluations must be used to help prioritize limited resources to better address these critical management challenges.

As mentioned previously, the situation in the Mediterranean regarding MEE is the similar to other MPAs around the world. Due to the large number of different approaches to MEE, some methodologies can appear confusing and sometimes out of context for local conditions, making implementation of any assessment difficult (Tempesta and Otero, 2013). Having that in mind, to provide a standardized methodology that can be applied equally to all the MPAs in the Mediterranean, a new, more approachable guideline for MEE in Mediterranean MPAs was created as part of MedPAN North Project.

2.3.1 MedPAN and MedPAN North Project

One way of achieving more effective MPA management in the Mediterranean is the creation of a network of MPA managers to share their knowledge and experiences (White, Aliño and Meneses, 2005). Such an MPA network, Mediterranean Protected Areas Network (MedPAN) was created 1991 with the goal of improving MPA management effectiveness by bringing together the managers of Mediterranean MPAs to share experience and offer support for all management activities including the development of tools for the management of MPAs (MedPAN Network, 2012). At the request of the managers themselves, MedPAN evolved into a non-profit organization, established under French law, at the end of 2008. “The purpose of the creation of the MedPAN Association was to promote the creation, perpetuation and operation of a Mediterranean network of MPAs” (MedPAN, 2013). By 2013, the MedPAN organization included 52 members who manage over 80 MPAs and 27 partners from 18 Mediterranean countries (MedPAN, 2013).

In 2010, the MedPAN Organization started a 2011-2013 project called MedPAN North Project (MedPAN Network, 2012). The MedPAN North project was established within the MedPAN network framework as an independent, sub-regional project under the leadership of WWF-France. “The aim of the MedPAN North project is to improve MPA management effectiveness and to contribute to the establishment of a network of MPAs, as part of the international commitments, and particularly the European commitments in this area” (MedPAN, 2013). The MedPAN North project brought together 12 key participants from 6 European countries that border the Mediterranean: Spain, France, Greece, Italy, Malta, and Slovenia. The MedPAN North project was divided in 5 different components: (1) Innovative aspects of MPA management; (2) Sustainable management of fisheries in MPAs; (3) Sustainable management of tourism in MPAs; (4) Communication and (5) Project management (MedPAN, 2013).

Since one of the overarching goals of the MedPAN North project is to improve management effectiveness, one of the objectives of “innovative aspects

of MPA management” is management effectiveness monitoring and evaluation. To reach that objective, the network required a harmonized methodology to help the MPA managers evaluate the effectiveness of their management, and a team of experts in the evaluation of MPA management effectiveness was created to assist the sites in implementing this evaluation tool (MedPAN, 2013). That new evaluation tool developed as part of MedPAN North project was the “QEM-Med Guide” (Tempesta and Otero, 2013).

2.4 Description of QEM-Med Guide

This guide was created to address the need for more approachable assessment of management effectiveness in Mediterranean MPAs.

QEM-Med Guide was developed as a new tool for assessing management effectiveness for all Mediterranean MPAs, taking into consideration the marked differences between sub regions and countries. It provides a framework for reporting on the progress made by individual MPA management towards achieving national and international marine conservation targets and serves to create a baseline for the monitoring of the Mediterranean MPA network (Tempesta and Otero, 2013, p. 10).

Built on past methodologies and the experience of Mediterranean MPA managers, the development process of this guideline consisted of three steps: (1) an initial review of existing literature, (2) the streamlining of existing methods, and (3) the adaptation of indicators to the Mediterranean regional context. MEE indicators identified from the literature, particularly those from methodologies previously implemented in Mediterranean MPAs, served as a basis for development of the list of indicators used in this guide (Tempesta and Otero, 2013). This preliminary list of indicators was drafted by Tempesta and Otero (2013) from following publications:

- IUCN–WWF guidebook “How is your MPA doing?” (Pomeroy et al., 2004)

- Federparchi–WWF Italy handbook Valutazione dell’efficacia di gestione delle Aree Marine Protette Italiane (MATTM, 2008)
- EMAS III Regulation (Regulation (EC) No 1221/2009)
- SPAMI selection criteria (UNEP–MAP RAC/SPA)
- Management effectiveness reports for Port-Cros National Park (Port-Cros National Park, 2007), Cap d’Agde Natura 2000 site (ADENA, 2009) and the Italian MPAs of Miramare, Sinis, Isole Ciclopi, Secche di Tor Parterno and Torre Guaceto (MATTM, 2008).

Initially, 49 indicators were selected and displayed in a matrix format, which helped to understand the diversity and similarities between the indicators. After excluding indicators that were determined not to be appropriate in the Mediterranean context and those too demanding in terms of the time and staff needed to assess them, the final version of QEM-Med Guide contained 18 indicators (Table 1).

Table 1. QEM-Med Guide indicators for MPA management effectiveness evaluation, from Tempesta and Otero (2013)

PRIORITY 1 INDICATORS	Category
1. Existence of legislation on MPAs	Legislation and Management
2. Existence of a functional management body	Legislation and Management
3. Existence of an updated management plan	Legislation and Management
4. Financial resources allocated to the MPA	Legislation and Management
5. Patrolling and regulation enforcement	Legislation and Management
6. Seawater quality	Pressures
7. Focal habitat conservation status	Features of interest
8. Focal species abundance and population structure	Features of interest
9. Management of fishing effort	Pressures
10. Action on alien invasive species	Pressures
11. Existence of outreach activities	Communication and Outreach
12. Management of visitors	Pressures
PRIORITY 2 INDICATORS	Category
1. Networking and training	Communication and Outreach
2. Coordination with stakeholders and planners	Legislation and Management
3. Status of focal physical, cultural and spiritual features	Features of interest
4. Climate change awareness and actions	Pressures
5. Alternative Livelihoods and/or Income-Generating Activities	Features of interest
6. Local perception of the MPA	Features of interest

Those 18 indicators were divided in two priority groups of which 12 were Priority 1 and 6 were Priority 2 (Tempesta and Otero, 2013). Priority 1 indicators were considered more important to the MPA's integrity and management, and therefore greater effort should be made to gather information on these indicators if necessary data is not currently available. Priority 2 indicators allow for a more comprehensive and consistent MPA assessment and might also provide valuable supporting information for a better understanding of the primary indicators (Tempesta and Otero, 2013). For each of 18 indicators, a scorecard with a worksheet was created to simplify their use. The scorecard format is quick and straightforward and was intended to be completed by MPA managers and also ideally MPA staff (Tempesta and Otero, 2013).

2.5 Results of Application of the QEM-Med Guide

The main conclusions drawn from application of QEM-Med Guide and comparison of the self-assessments of management effectiveness by case-study MPAs were that the high score obtained by the sites for a substantial majority of indicators suggested that the eight test MPAs are generally well managed. (Tempesta and Otero, 2013). Secondly, that QEM-Med Guide tool could be considered as a good starting baseline that could also be effectively used by recently established MPAs. The most important conclusion from implementation of QEM-Med Guide for this thesis research was that sharing the tool, its results, and future actions among MPA staff is of outstanding importance and that this evaluation should not remain the work of few people (Tempesta and Otero, 2013). Pros and cons of the first application of the QEM-Med Guide were evaluated with a short questionnaire distributed to five MPAs, asking for comments on five points: (1) Utility of the use of indicators, (2) Difficulties in the application of the indicators, (3) Use of this tool in the future, (4) Management indications obtained from application of the indicators, (5) Sharing the tool with the MPA staff (Milena Tempesta, personal communication, September 24, 2013).

In the findings regarding "Sharing the tool with the MPA staff", it was clearly seen that sharing the tool with MPA staff was of critical importance, but has not been achieved. A few of the respondents stated that it was difficult to share the results and

importance of the tool with the rest of the MPA staff but they were aware of importance of sharing. One of the respondents had shared MEE results with the MPA director, Conservation service agency, and with a member of the Management Board. One of respondents stated that the tool and results should be shared at higher levels (among MedPAN MPA managers and other organizations such as IUCN, etc.). It can be seen from these responses, that sharing the tool and its results between MPA staff was an issue that needs to be addressed and a problem that needs to be solved (Milena Tempesta, personal communication, September 24, 2013). Tempesta and Otero (2013) offer that they believe this approach to assessment is quick and straightforward, and recommended that this process should involve both MPA managers and staff.

2.6 Engagement of MPA staff in MEE process

The best explanation of who should participate in MPA MEE, can be found in IUCN guidebook “How is your MPA doing?” (Pomeroy et al., 2004). According to that guidebook, a number of recommendations are offered regarding who is needed and qualified for implementing the evaluation itself. Two criteria that should be applied, as minimum requirements, to identifying the evaluation team:

- *Team members have an education or experience that equals a college degree in the natural sciences, social sciences, or related environmental and natural resource management studies.*
- *Team members are knowledgeable about the fundamentals and standard methods used in the biological and social sciences.*

It was considered important (Pomeroy et al., 2004) to create the evaluation team and determine the MPA staff responsible for each task, recommended that individuals have necessary skills to conduct the type and level of evaluation that the MPA wants to implement, and that members of the evaluation team can complete their activities within the timeline. The evaluation team is responsible for planning, implementation, and initial analysis of the findings of the evaluation.

Simple evaluations could be done by a biologist and a social scientist from the MPA staff, but for more complex evaluations, additional people with a diverse set of disciplinary skills (e.g. marine biology, ecology, oceanography, economics, sociology, anthropology, law and political science) would likely be required. To determine the level of expertise, and which MPA staff or non-staff member will conduct the evaluation, a number of considerations must be taken into account. If some staff has not had relevant training or experience, the data collection may at first appear challenging for them. Therefore, it is recommended that the evaluation team include at least one or two trained and experienced specialists from both the biological and social sciences to conduct the data collection. Most importantly, there must be an individual who will lead the evaluation and evaluation team, who may or may not be the MPA manager. MPA managers and staff have many job requirements and evaluation is just one of them, so it is advisable to consider allocating a minimum of 10% of staff time to evaluation annually (Pomeroy et al., 2004). Lastly, “the evaluation team should review the selected indicators and their methods, be aware of their requirements and difficulty rating, and continually identify and address capacity needs and seek professional assistance well in advance of the start of the evaluation” (Pomeroy et al., 2004, p. 28). Furthermore, Pomeroy et al. (2004) suggested that evaluations should be participatory at all stages of the process to capture all issues involved in the management of an MPA.

Local stakeholder participation could provide opportunities for developing stronger relationships between MPA staff and local people. Local people may be more aware of cultural complexities and have a natural rapport with others in the community. Training local people to be members of the evaluation team builds capacity and increases the chances that evaluation will continue over time (Pomeroy et al, 2004, p. 25).

There is also possibility that external consultants or organizations with the necessary expertise may be required if at some MPA sites there is lack of qualified MPA staff. Since it is possible to conduct the evaluation internally and externally, benefits and limitations (Table 2) need to be taken into the consideration.

Table 2. Considerations for internal versus external evaluators, from Pomeroy et al. (2004)

Internal Evaluators	External Evaluators
<ul style="list-style-type: none"> • May have a bias or complex relationships with a community 	<ul style="list-style-type: none"> • Often provide impartiality, a fresh perspective, and credibility
<ul style="list-style-type: none"> • Have an understanding of the history, experiences and details of the site 	<ul style="list-style-type: none"> • May have limited local knowledge, learning is a cost in time and money
<ul style="list-style-type: none"> • Often live in or near the site 	<ul style="list-style-type: none"> • Usually stay for short visits to the site
<ul style="list-style-type: none"> • Tend to focus on issues of relevance to the managers (efficiency and effectiveness of work) 	<ul style="list-style-type: none"> • Tend to focus on questions relevant to external groups (stakeholders, funding agencies)
<ul style="list-style-type: none"> • May not have all the skills necessary and need technical assistance 	<ul style="list-style-type: none"> • Bring technical expertise and perspectives from other sites
<ul style="list-style-type: none"> • Are able to enhance the application of results and future work 	<ul style="list-style-type: none"> • Take away valuable information, knowledge, perspectives and skills

Therefore, through incorporating greater active engagement of MPA staff and local stakeholders in the evaluation process, the MEE can potentially yield more useful results and build social capital. It may expand opportunities for sharing of information and ideas among the staff regarding evaluating and improving management effectiveness. Perhaps most importantly, such a strategy can lead to building a culture of evaluation that promotes and values evaluation as an ongoing and essential part of implementation of its site management plan.

2.7 Building Social capital

Building social capital within MPA governance through the MEE process is something that needs to be taken into consideration since social interaction inside and outside the site is an important part of managing a MPA effectively. For example, when a MPA describes the overall vision, it is the social relationships among the actors in a management process that have an influence on ultimately achieving that vision (Layzer, 2008).

The exploration of social capital began in the latter part of the twentieth century, perhaps originally with a thought-provoking discussion by sociologist James Coleman. According to Coleman (1988), “human capital is created by changes in persons that brings about skills and capabilities that make them able to act in new ways”. Coleman goes on to argue that: “social capital comes about through changes in relations among persons that facilitate action”. This means that social capital and social interaction play an important role in governance of MPAs through networks of relationships. These networks of relationships can foster, for example, the quality and quantity of knowledge sharing (Weiss et al., 2012), improved access to information, and identification of decision-making power (Jentoft et al., 2007). Social capital not only creates an atmosphere conducive to some activities (e.g. MEE), it provides the cultural will to solve problems through cooperation (Lean, 1995), while more productive social capital generates understanding, compassion, trust, and an inclusive concept of community (Peck, 1987; Etzioni, 1991). The successful MPA community is not a collection of individuals crashing into each other’s self-interest, but rather is a network of individuals in the MPA governance and beyond (Wilson, 1997). In the end, more productive activities can be created by trusting personal relationships. Trust, therefore, is a form of social capital that works as a prerequisite to further socially important activities, such as in this case the MEE process and the adaptive management that should be implemented from such evaluations.

All this leads to the point that greater MPA staff participation in the MEE process may help build social capital. According to Putnam (1993), social participation improves social skills that are a precondition of social capital. For example, “social participation leads the participants to experience an associational life that includes encounters with disagreement and conflict, leading to collective problem solving, and this in turn improves their social skills and leadership competence” (Putnam, 1993, p. 160). If networks of participation have a high level of connectivity they may also facilitate the flow of communication and provide information about the trustworthiness of people and organizations, both positive and negative. Furthermore, if collective action (e.g. MEE) depends on accurate information about the trustworthiness of potential participants, then it stands to reason that increased communication would likely strengthen mutual trust. Finally, networks of engagement, characterized by successful action, will increase the probability of future

action such as adaptive management (Bridger and Luloff, 2001). On the other hand, investing in social capital also forges much deeper trust with local communities and stakeholders, who want to know if the MPA that is affecting their lives (and livelihoods for some) is managed properly or not. Furthermore, an established network of relationships with stakeholders can facilitate more equitable connections among actors in the MPA governance system (Weiss et al., 2012).

The governance of MPAs that successfully builds and fosters productive social capital will be that which is best positioned for prosperity and adaptability in the coming years (Wilson, 1997). Even though social capital is invisible, it is real and recognized as a major determinant of a community's (e.g. MPA community/governance) wealth and prosperity (Wilson, 1997). In the end, "using social capital to analyze MPAs can help build a better understanding of the contextual factors (both temporal and spatial) that work to undermine or maintain an MPA" (Johnstone, 2009, p. 34). That means that social capital can be utilized by individuals to work together for everybody's benefit (Johnstone, 2009). The potential importance of having social capital within MPAs brings certain benefits, and can help to start building culture of evaluation and possibly create more efficient and effective implementation of the MEE process.

2.8 Importance of building Culture of Evaluation

To help ensure more effective implementation of MEE and sharing the results in MPAs, a key factor might be developing and maintaining a culture of evaluation. In every moment, "there needs to be a climate in the organization where evidence on performance is valued, sought out and seen as essential to good management" (Mayne, 2008, p. 4). Otherwise, without such a climate, adherence to systems and procedures can affect attitudes towards results, management, and the evaluation itself (Mayne, 2008). Further, according to Mayne (2008), a culture of evaluation can be seen as part of organizational culture that "deliberately seeks out information on its performance in order to use that information to learn how to better manage and deliver its programs and services, and thereby improve its performance.". In other words, building a culture of evaluation can create ongoing opportunities for people to

engage in discussing what they do, how well they do it, and what can be done better (Stathis and Jacobson 2009, cited in Growcock et al. 2009). The reasons or benefits for having culture of evaluation according to Murphy (1996), can be seen grouped under three headings:

1. *Personal benefits: renewed interest in doing your job; better relations with colleagues (trust); increased confidence*
2. *Professional benefits: new and improved skills; more effective interpretation and implementation of the curriculum; ability to develop*
3. *Institutional benefits: co-operation; learning organization; quality assurance*

Organizations with strong culture of evaluation value empirical evidence on the outputs and outcomes that they are trying to achieve (Mayne, 2008). Table 3 shows characteristics of culture of evaluation in an organization with a strong culture.

Table 3. Characteristics of strong culture of evaluation in an organization, from Mayne (2008)

An organization with a strong culture of evaluation:
1. Engages in self-reflection and self-examination:
<ul style="list-style-type: none"> • deliberately seeks evidence on what it is achieving, such as through monitoring and evaluation, • uses results information to challenge and support what it is doing, and • values candor, challenge and genuine dialogue;
2. Engages in evidence-based learning:
<ul style="list-style-type: none"> • makes time to learn in a structured fashion, • learns from mistakes and weak performance, and • encourages knowledge sharing;
3. Encourages experimentation and change:
<ul style="list-style-type: none"> • supports deliberate risk taking, and • seeks out new ways of doing business.

If most of these characteristics are missing, it means that there is a weaker culture of evaluation which has characteristics, such as, gathering information on results, but limiting the use to mainly sharing results with senior staff, or acknowledging the need to learn, but not providing the time or structured occasions to do so (Mayne, 2008).

Probably the easiest way to foster culture of evaluation can be seen in undertaking evaluation and monitoring by as much MPA staff engagement as possible. If the MPA manager and staff are involved in the process of measuring and analyzing information, they may be more likely to see the value of such efforts and to make use of the information gathered (Mayne, 2008). For example, seeing positive results of evaluation in terms of better design or delivery will further increase interest in learning from such information. On the other hand, if the main purpose of evaluation and monitoring is to check up on performance of managers and staff, then an evaluative culture is less likely to be supported. Mistakes occur in the implementation of management strategies and are not positive outcomes. However, in culture of evaluation, it is important to accept and learn from not “mistakes” but “unanticipated outcomes”. Therefore, in learning and culture of evaluation, unanticipated outcomes need to be tolerated and seen as an opportunity to learn what went wrong and how to do better the next time. MPA managers and staff have to believe that evaluation, done well, does not threaten their continued employment (Mayne, 2008).

Through a strong culture of evaluation, individuals and staff can gain a deeper understanding how their actions can affect other areas of the MPA. For example, they can develop a stronger sense of their responsibility and belonging to the MPA, and perhaps most importantly, they can use relevant information to act with more willingness to share the work that needs to be done (Preskill and Torres, 1999). With greater staff engagement in the evaluation process, it is important to present an evaluation as a way of giving staff a voice and also as a way of showing that management is listening (CSPE, 2011). With having all that in mind, the most important factor in building culture of evaluation is leadership. A strong senior leadership should be committed to providing consistent and regular effective communication about the importance of evaluation, and acting consistently within the culture of evaluation, i.e., “walking the talk” (Mayne, 2008). Some other ways of building culture of evaluation can be found in encouraging knowledge sharing and encouraging learning through experience. For example, when an organization is encouraging knowledge sharing, it means that MPA management agency values sharing information and knowledge, such as providing group learning opportunities and developing supportive information sharing (Mayne, 2008). Encouraging learning through experience means that learning also occurs through direct job experience. For

example, MPA governance can enhance this type of learning by encouraging efforts to identify and communicate good practices (Mayne, 2008). This can be achieved through establishing coordination, which is needed to manage the processes of learning and evaluation (Murphy, 1999).

Building culture of evaluation isn't an easy task and it requires deliberate efforts by all MPA staff, especially senior managers, to encourage, implement and support such a culture (Mayne, 2008). When culture of evaluation is established, it must be maintained and nurtured. Agencies that effectively created cultures of evaluation suggested how it was worthwhile because of the trust and confidence that is produced as they face and cope with forces for change, and take charge of their own progress (Murphy, 1999). In the end, it seems that building an evaluation culture can be simple; it all starts with greater staff engagement in the MEE process.

2.9 Case studies

As part of MedPAN North Project and other MedPAN partners, the QEM-Med Guide was implemented at eight marine protected areas (Figure 2): Miramare, Cinque Terre, Torre Guaceto and Tavolara MPAs (Italy), Cap de Creus and Illes Medes MPAs (Spain), Strunjan MPA (Slovenia), and Telašćica Nature Park (Croatia).

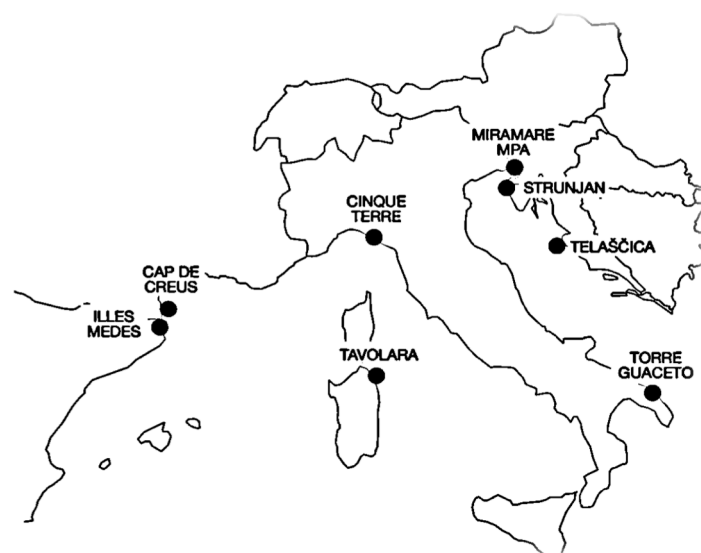


Figure 2. MPAs case studies that implemented MEE using QEM-Med Guide

Those eight MPAs are of different sizes, utilize different funding schemes, were established at different times, and are under statutory authorities with sometimes considerably different conservation objectives. Some of these sites focus on protecting specific ecosystems or species, while others have a more general marine biodiversity conservation focus. Of the eight sites, several are also part of the Natura 2000 Network, an EU recognized body aiming to protect Europe's most threatened species and habitats (European Commission, 2014). These examples reflect the characteristic diversity of natural and socio-economic conditions of MPAs in the Mediterranean. The results of MEE conducted on these Mediterranean MPAs are also presented in QEM-Med Guide implementation report to give better insight into the most important elements and factors that influence MPA management (Tempesta and Otero, 2013). Also, through a short questionnaire conducted by authors of QEM-Med Guide, pros and cons of the first application of the QEM-Med Guide were evaluated.

3 Research Methodology

3.1 Introduction

For this research, the data were gathered using an online questionnaire, and all the recipients were contacted through mailing lists provided by Milena Tempesta, co-author of the QEM-Med Guide and coordinator for the MEE at one of the sites targeted in the survey. Milena Tempesta was able to provide the most relevant mailing lists for the sites that have used the QEM-Med Guide since she was responsible for the work of management evaluation in the MedPAN North Project and she has collaborated with all respondents. The questionnaire was in the form of a web link that was distributed via e-mail to those individuals who were then specifically asked to fill out the questionnaire only if they were responsible for coordinating the MEE using QEM-Med Guide at their site. In case that they were not in charge of coordinating the MEE, they were asked to forward the e-mail to the person who was in charge or provide that persons' name and e-mail address. In the end, all respondents originally contacted were actually the coordinators of the MEE at that site, as all eight responses were returned from the sites asked to complete the online questionnaire.

3.2 Online questionnaire

The focus of the online questionnaire was to evaluate, as articulated in the hypotheses stated previously, the role of MPA staff engagement in the conducting of MPA effectiveness evaluations. In total, the questionnaire contained 24 questions. At the beginning of the questionnaire, the respondents were asked to indicate their affiliation, background and name. The substantive content of the questionnaire is divided into six different sections:

1. **MEE knowledge** - This section asked for details about conducting of the MEE at the site using the QEM-Med Guide process, particularly how familiar the respondent was with MEE methodology and implementation process prior to conducting the evaluation.
2. **MPA staff on site** - This section asked for details regarding the number and expertise of MPA staff at the site and how engaged they were in the evaluation process conducted. Additionally, questions were posed to evaluate whether the respondents felt this level of engagement was sufficient to successfully conduct the evaluation.
3. **Internal-external MEE** - Here, the respondent was asked about whether they felt that the MEE being coordinated by MPA staff was sufficient, or whether an outside consultant would have been more effective.
4. **Evaluation with more MPA staff** - This section asked for respondents' opinions about whether more MPA staff engaged in evaluation process would have led to a more robust evaluation, and whether with this experience would affect decisions about actively engaging MPA staff in future evaluations. Questions were also posed in this section seeking the opinion of the respondents about whether they believed that involving more MPA staff, and facilitating more interaction and exchange of data and results, in the management effectiveness evaluation would increase the value and effectiveness of the MEE outcomes.
5. **Importance of evaluation** - In this section, respondents were asked about their perception of the importance of MEE before they began the process, and after the evaluation was completed. These questions were focused on identifying whether the perceived value of MEE was different before and after its implementation at their site, and suggesting recommendations arising from the evaluation as to the respondents' sense of whether the MEE results would eventually be incorporated into the MPA management plan and lead to changes in the way the MPA is managed.

6. Importance of sharing the MEE results - in the last section, the respondents were asked about their perception of the importance of sharing MEE results with MPA managers and senior staff, the rest of MPA staff, stakeholders, regional NGOs, national authorities, and other international MPA managers.

A space was also included at the end of the online questionnaire for additional comments. A full copy of online questionnaire used in this study can be found in Appendix A.

4 Results

A total of eight responses were received from the eight MPAs contacted. Sites represented in the responses were: Miramare, Cinque Terre, Torre Guaceto and Tavolara MPAs (Italy), Cap de Creus and Illes Medes MPAs (Spain), Strunjan MPA (Slovenia), and Telašćica Nature Park (Croatia). It was confirmed in the questionnaire responses that all respondents were responsible for coordinating the MEE at those MPA sites, and the QEM-Med Guide was used as the MEE framework.

4.1 Respondents profiles

The majority of the respondents had an academic background in biology and ecology, while two of the respondents had a background in environmental science and scientific studies. Not all of them were managers or staff at the MPA for which they provided a response. There were two responses from outside consultants who conducted the MEE. In Nature Park Telašćica, the evaluation was conducted by a representative of the Association for Nature, Environment and Sustainable Development (“Sunce”) who is also a member of the Telašćica Management Board. The evaluation at MPA Strunjan was coordinated by The Institute of the Republic of Slovenia for Nature Conservation. For nearly all respondents, this was the first MEE conducted, except for the person responding on behalf of Torre Guaceto MPA, who had previously coordinated two MPA effectiveness evaluations.

4.2 MEE knowledge

As can be seen in Figure 3, half of the respondents were “Familiar” with the QEM-Med Guide and implementation process before the evaluation process was initiated at their site.

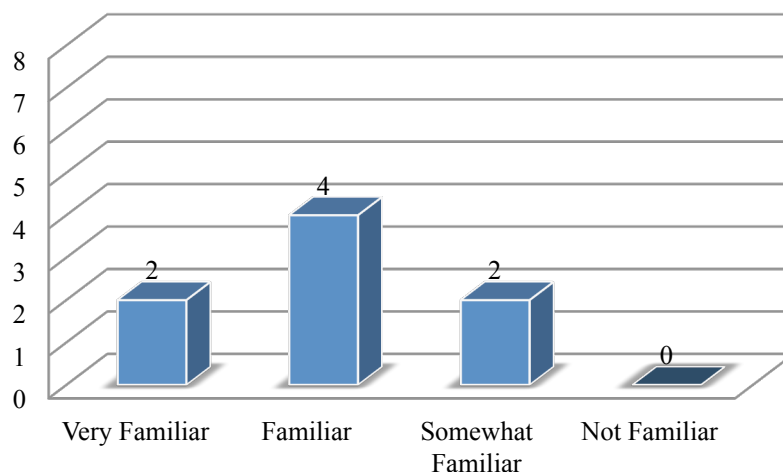


Figure 3. Respondents stated familiarity, prior to the conduct of the evaluation, with QEM-Med Guide methodology and implementation process

Of two respondents who believed that were “very familiar”, one respondent was involved in two previous MEE processes before this one. Two responded believed they were only “somewhat familiar”. This suggests all respondents had some initial familiarity with and knowledge of the MEE process and its implementation.

4.3 MPA Staff Engagement in MEE

The respondents were asked about the number of MPA staff working at the site and how many of them were assigned to assist in the conduct of the MEE. At the time evaluations were being implemented, the MPA with the most employees was Telaščica Nature Park (Croatia), which had between 21 to 40 employees. Most of the other MPAs had 2 to 7 employees while two MPAs had 8 to 10 employees during the period when the MEE was conducted (Table 4). The respondents were then asked

about how many MPA staff were actually assigned to assist in conducting the evaluation, and results are shown in Table 4.

Table 4. Total number of employees on MPA staff at the time the evaluations were being conducted and number of MPA staff assigned to assist in the conduct of MEE

MPA site	Total MPA employees	Assigned MPA staff
NR Strunjan	2-7	0-1
Miramare	2-7	0-1
MPA Cinque Terre	2-7	0-1
Natural Park Cap de Creus	2-7	0-1
Illes Medes MPA	2-7	0-1
TORRE GUACETO	8-10	0-1
Tavolara Punta Coda Cavallo	8-10	0-1
Nature Park Telašćica	21-40	2-4

It can be seen that only at the Telašćica Nature Park (Croatia), the MPA that had the most employees in the survey, was more than one staff assigned to assist in the MEE. In other MPAs regardless of the number of staff, the number of MPA staff assigned to assist in the MEE was between zero and one.

The next question focused on whether respondents, as coordinators of the MEE, were responsible for or were consulted regarding the number of MPA staff assigned to assist in the evaluation. Of the eight respondents, three of the respondents were responsible for assigning the staff, while three respondents indicated they were not responsible for or consulted regarding the assignment of staff. The remaining two respondents indicated that they were consulted about how many MPA staff were assigned to assist in the evaluation. Additionally, respondents were asked, after staff were assigned, whether they felt they had enough MPA staff to assist in the implementation of the evaluation process. Four of the respondents (Figure 4) felt that they had enough MPA staff to assist in the MEE. However, two respondents offered the opinion that they did not have enough MPA staff available to support the process. Another two respondents were “not sure” they had enough staff assigned to the evaluation. With regard to staff access, seven respondents said that they had sufficient access to MPA staff who were not specifically assigned to the evaluation team, but

who could be consulted when needed, to provide information about MPA management for the MEE (Figure 4).

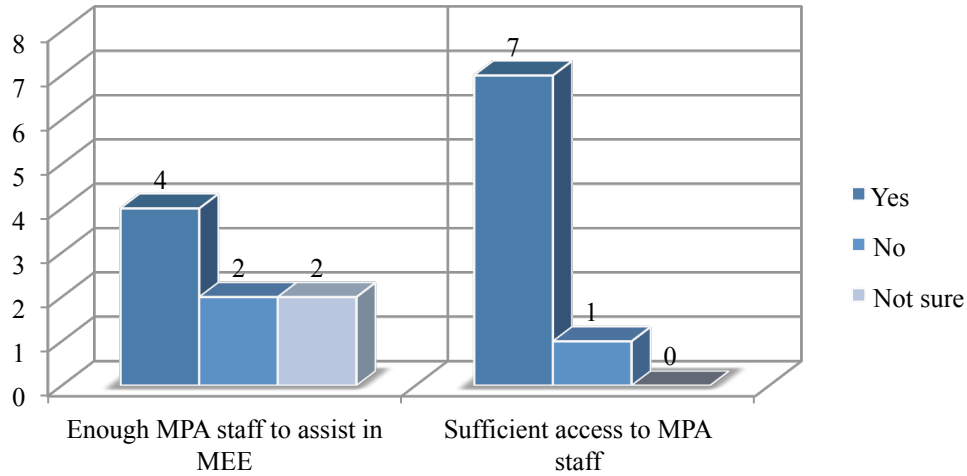


Figure 4. Having enough MPA staff to assist in MEE and sufficient access to MPA staff

Similar results were obtained for questions about MPA staff who were asked to provide information about MPA management for the evaluation. Respondents were asked whether they found the MPA staff were sufficiently responsive to requests for information, whether MPA staff provided requested information in a timely way and whether MPA staff offered responses that fully and adequately addressed the question posed (Figure 5).

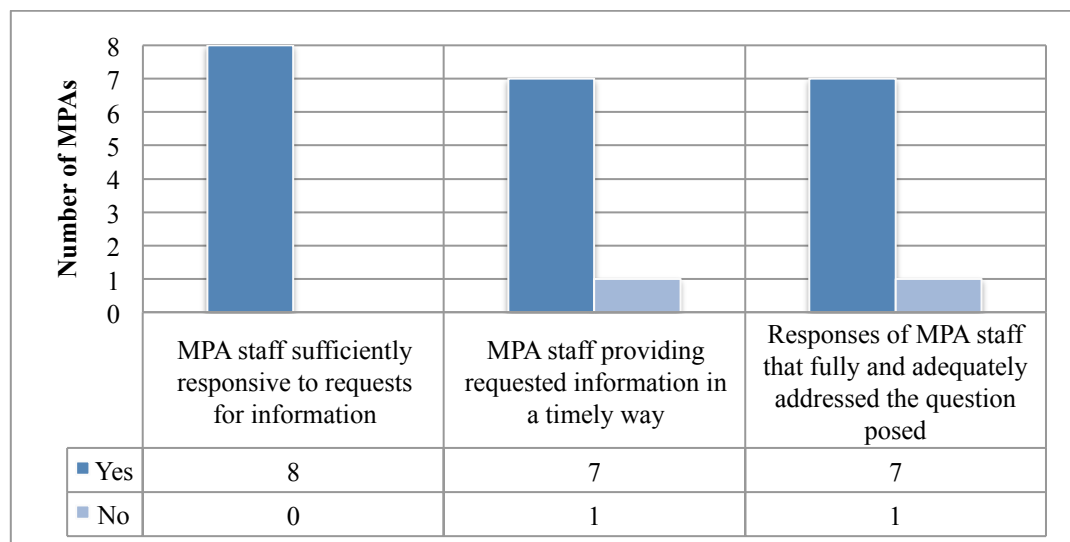


Figure 5. MPA staff provides information about MPA management for the MEE

Nearly all respondents generally believed that the MPA staff were sufficiently responsive to requests for information, but one respondent indicated that the MPA staff didn't provide requested information in a timely way. Furthermore, only one respondent answered that he did not think MPA staff offered responses that fully and adequately addressed the questions posed while all other respondents answered this question positively.

4.4 Internal/external coordination of the MEE

The next question posed related to the need for assistance from others not currently on staff at the MPA. Five respondents offered that they required external assistance, while three indicated they did not. Two respondents needed assistance to support data collection and analysis while another respondent needed help from a scientific expert in marine management. Two other respondents required the assistance of two persons outside MPA staff. One respondent for example, needed assistance from the author of the QEM-Med Guide to help him implement the evaluation and from the person responsible for conducting the last MEE at this site.. The person who conducted the last MEE at this site implemented the MEE on the system level and this was the first site-based MEE at this MPA. The other two questions were focused on respondents' opinions of the MEE being coordinated by MPA staff versus by an external consultant. The first question was: if the current evaluation was coordinated primarily by MPA staff, would it have been, in the respondent's opinion, more efficient and faster if someone from outside the MPA staff with experience in MEEs had been hired to coordinate the evaluation (Figure 6).

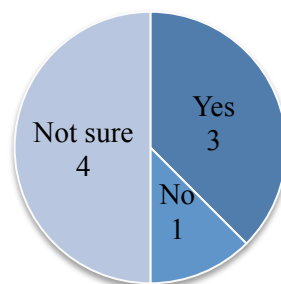


Figure 6. Efficient and faster MEE if coordinated by someone experienced in MEE from outside MPA

One respondent commented that the answer depends a lot on the size of the MPA, the number of activities going on, etc. Another respondent commented that there were only a few people working in the MPA and they don't feel they have enough time to develop the MEE. Therefore, for them it is more effective if someone with experience from outside MPA staff can do the evaluation. Additionally, one respondent stated that having someone from outside the MPA helps to lower the evaluation bias and potentially adds a more neutral perspective to the evaluation, and also brings experience and expertise from other MEE processes in which they have been involved. On the other hand, three respondents stated that sometimes people that come from outside the MPA do not have real knowledge of the situation at the MPA, and given the differences among MPAs, maybe it is more advisable that the MPA staff implement the MEE and the findings be reviewed by an external consultant with expertise and experience in MEE.

The last question under this topic refers to evaluations being coordinated primarily by an outside consultant. Seven respondents expressed agreement that someone from the MPA staff should coordinate the evaluation (Figure 7).

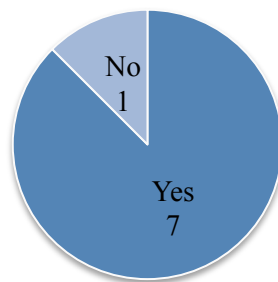


Figure 7. MPA staff should coordinate the evaluation if coordinated primarily by an outside consultant

The respondent from a site where an outside consultant conducted the MEE expressed the view that it is not relevant whether the person is an insider or outsider. Other respondents commented that they believe it is good to have the inside perspective and it is easier to understand results and gain needed information. One other opinion regarding the value of having MPA staff coordinate the evaluation comes from one of the creators of QEM-Med Guide, and who also coordinated the MEE at one of the sites targeted in the survey, who offered the comment that

someone from the MPA staff knows better what is requested in the MEE and who inside the MPA to ask for the necessary data.

4.5 Evaluation with more MPA staff

When respondents were asked about their satisfaction with the evaluation process in terms of MPA staff participation, most of the respondents said they were “Satisfied” (4), followed by respondents who were “Moderately satisfied” (3) and “Very satisfied”(1). No responses of “Somewhat Unsatisfied” or “Unsatisfied” were received (Figure 8).

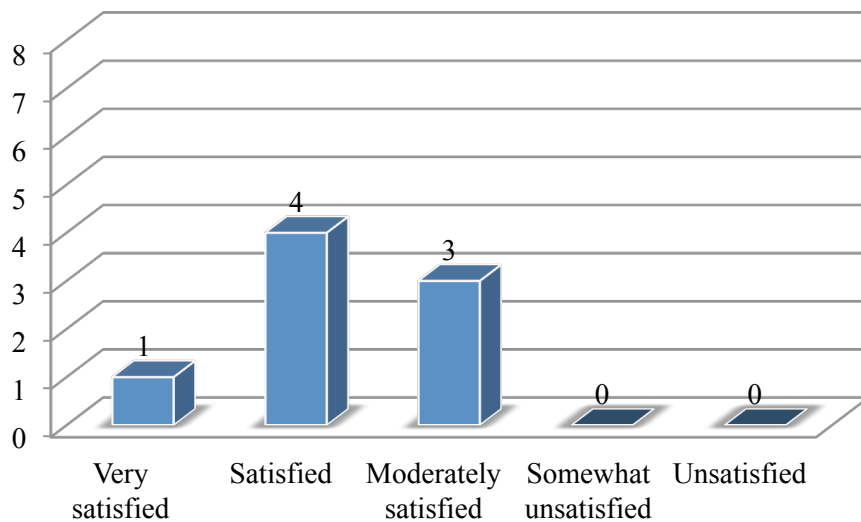


Figure 8. Satisfaction with the evaluation process in terms of MPA staff participation

Taking into consideration their experiences with the most recent evaluation, the respondents were asked whether they would actively involve more MPA staff in the evaluation process next time an evaluation is conducted. Four respondents (Figure 9) said “Yes” and one respondent said “No”, while three respondents’ answered that they are “Not sure”.

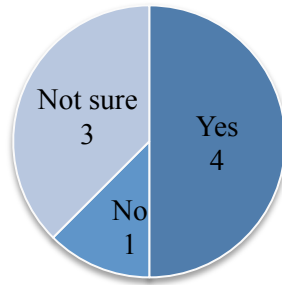


Figure 9. Better to involving more MPA staff in next evaluation process?

In next question, respondents were asked whether they agreed or disagreed with the idea that a way of involving more MPA staff in the MEE should be found, since it entails more data exchange and results shared between the MPA staff. Four of eight respondents said they “agree” while the two “strongly agree”, and one “neither agree nor disagree” as summarized in Figure 10, from which it can be seen that a way should be found to involve more MPA staff in the MEE.

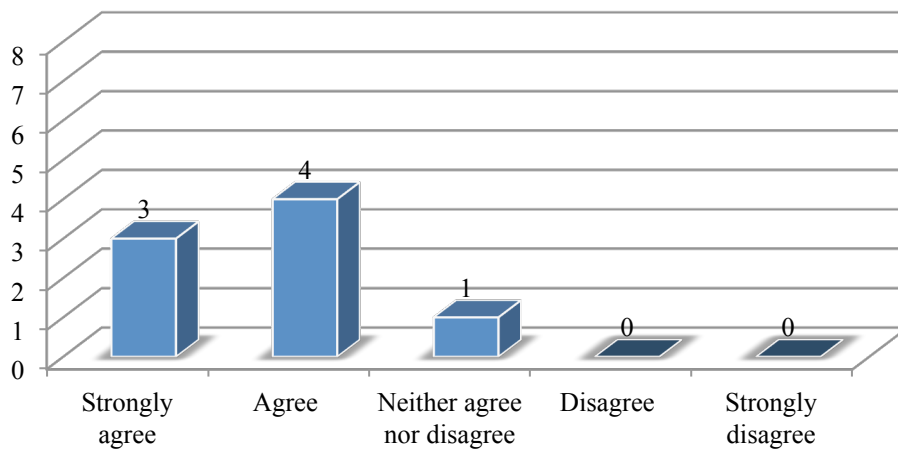


Figure 10. Should more MPA Staff be actively involved in the MEE?

In the last question of this section, respondents were asked if they agree or disagree that involving more MPA staff in the evaluation of management effectiveness would result in the process being more efficient and effective. Here, respondents’ answers varied from “strongly agree” to “disagree” (Figure 11). Three respondents “strongly agree”, two respondents “agree”, two respondents “neither agree nor disagree”, while one respondent “disagrees” that involving more MPA staff

in the MEE makes the process more efficient and effective. A clear majority of respondents, however (5 of 8) expressed some level of agreement with this idea.

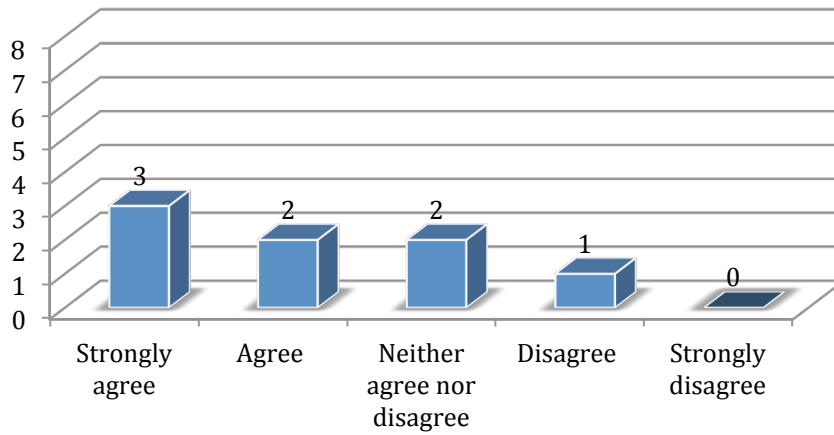


Figure 11. Involving more MPA staff in the MEE makes the process more efficient and effective

4.6 Importance of evaluation

To provide some insight into the importance of evaluation, the respondents were asked how important the MEE was for them before the evaluation process began. One respondent answered “Extremely important”, six of the respondents answered “Very important” and one respondent answered “Moderately important”. This suggests all respondents had some sense of importance of the MEE (Figure 12).

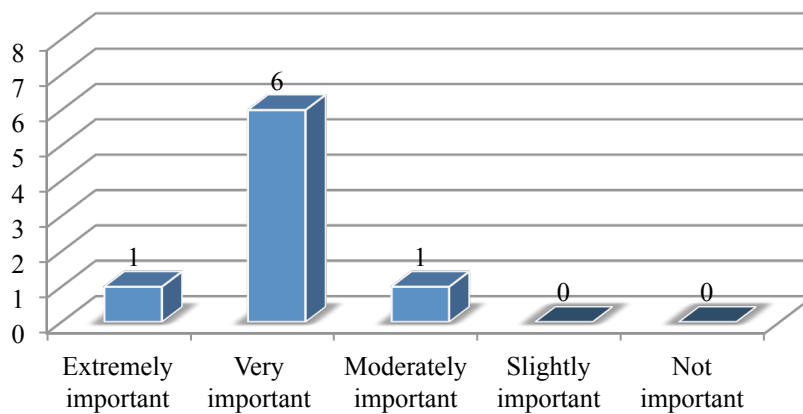


Figure 12. Importance of MEE before implementation

When asked if they found, after the evaluation was completed, that it was a valuable and potentially useful thing to do and that it was worth the time and effort it took to complete, five sites responded that it was “Very valuable” and three suggested that it was “Moderately valuable” (Figure 13).

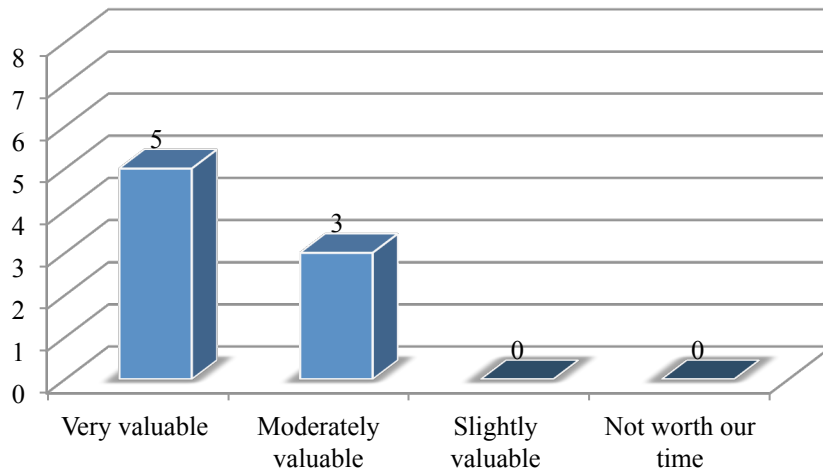


Figure 13. Importance of MEE after implementation

The next two questions were focused on whether the respondents believed that recommendations arising from the evaluation will eventually be incorporated into the MPA management plan or potentially change the way the MPA is managed. On the question of whether any of the recommendations arising from the evaluation have been incorporated into a revised management plan for the MPA or led to changes in the way the MPA is managed, three respondents answered “yes”, three “no”, while two respondents were “not sure” (Figure 14).

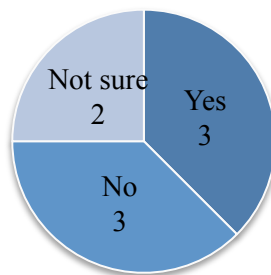


Figure 14. Recommendations led to changes in the way the MPA is managed

When asked if they believed that the recommendations arising from the evaluation will eventually be incorporated into the MPA management plan, most of the responses were somewhat positive. One respondent expressed the opinion that “all recommendations” will be incorporated, four respondents believed that “many of the recommendations” will be incorporated while three respondents felt that only “a few of the recommendations” will be incorporated into the MPA management plan (Figure 15).

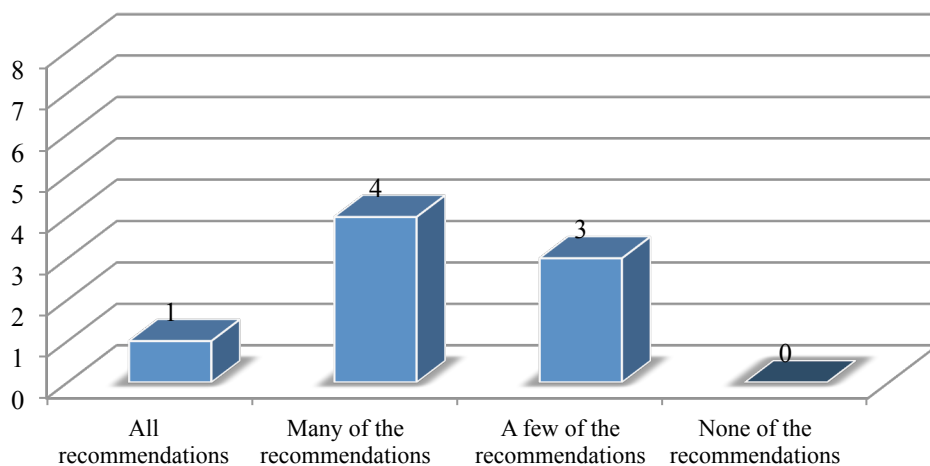


Figure 15. Possible recommendations incorporated into the MPA management plan

The respondent from one site commented that because MEE was conducted at this site very recently and the management plan was finished the year before, some issues that were identified in the MEE are already being taken into consideration, but others will have to wait until the next revision of the management plan.

4.7 Sharing the MEE results

At the end of the questionnaire, respondents were asked about the importance of sharing MEE results with others inside and outside the MPA. These might include the MPA manager and senior staff, if they were not actively involved in the evaluation, all other MPA staff, again especially those who were not actively involved in the MEE process. Others may include stakeholders, regional NGOs, national authorities, and other international MPA managers. The responses to this question suggest that

this enhanced effort involved with sharing the results of the MEE is considered reasonably important. These results are summarized in Figure 16.

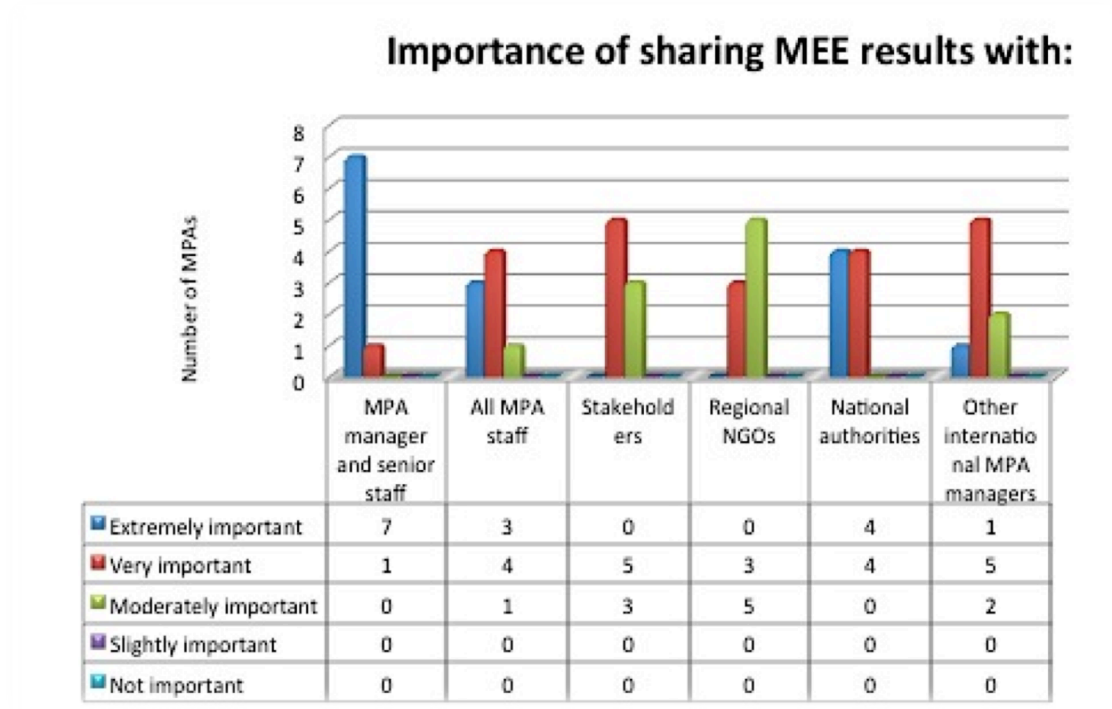


Figure 16. Importance of sharing MEE results

As a comment to this question one respondent offered the opinion that not all of the evaluation results should be shared, and that the MEE should primarily be a tool for MPA itself to better understand their strengths and weaknesses.

5 Discussion

As has been noted, while MEE can provide useful results, the translation of these findings into tangible improvements of MPA stewardship is often lacking. Therefore, the purpose of this study was to determine if greater active MPA staff engagement in MEE process can improve its implementation efficiency, facilitate and encourage the sharing of results, and help to foster a culture of evaluation that promotes and values evaluation as an ongoing and essential part of implementation of a site management plan. The results of this research offer support the idea that there should be a greater active engagement of MPA staff in the MEE process, and it should not be a work of few people. These findings seem to suggest that greater active MPA staff engagement in evaluation may lead to more efficient and effective implementation of such MPA evaluation processes. This also might be done through establishing and nurturing a culture of evaluation that expands opportunities for sharing information and ideas among the MPA staff regarding evaluating and improving management effectiveness. Additionally, greater staff engagement can start building social capital and help create this culture of evaluation that promotes and values evaluation as an ongoing and essential part of implementation of site management plan.

5.1 The need for greater active MPA staff engagement in MEE process

In general, survey results have suggested that there is a need and opportunity for greater active staff engagement in the evaluation process. All of the MPAs that have implemented QEM-Med Guide at their site assigned rather small numbers of staff to actively engage in the evaluation process relative to the total number of staff working on the site. For example, one of eight sites assigned at least two staff members to assist in the conducting of evaluation. Of the remaining seven sites, the survey indicated that between zero and one staff member(s) were assigned to assist in

conducting the evaluation. Further analysis of the survey results offer some insight into how this level of investment of staff in MEE may be insufficient.

Of the eight survey respondents, four expressed the opinion that after staff were assigned, they were uncertain that enough MPA staff were engaged from the beginning of the evaluation, two of which went on to say that they did not, in fact, have enough staff support from the beginning of the evaluation process. The level of active engagement of staff was also identified by a small number of respondents as something that could be improved. Seven of the respondents offered that all staff contributed significant information through their participation, although one respondent expressed that staff did not provide requested information in a timely way, not offering responses that fully and adequately addressed the questions posed. On the other hand, with regards to staff access, seven respondents expressed the opinion that they had sufficient access to MPA staff who were not specifically assigned to the evaluation team, but who could be consulted when needed, to provide information about MPA management for the MEE. That shows that respondents who didn't have enough staff in the evaluation process could have included more staff when needed. This suggests that greater staff involvement from the initial stages would be advisable and would assist in ensuring a more complete and effective evaluation process. Greater staff engagement might not only simplify the process, offering increased staff time to conduct the evaluation and potentially more informed insights on past management activities upon which the evaluation could be conducted, but also alleviate the need to try to get the help at later stages, when the analysis of the results may be found to be limited by insufficient information. At this point, those staff less engaged in the process, without any ongoing participation, would be expected to become part of something with which they were unfamiliar and would possibly be less likely to make themselves as available as required, with an appropriate depth of commitment, to assist in the evaluation when called upon to do so.

Secondly, it should be noted that half of the survey respondents suggested that they would actively involve more MPA staff in the evaluation process next time one is conducted at that site. Three respondents were uncertain if they would engage more staff while only one disagreed with the idea of involving more staff in evaluation process. It is important to note that the respondent that felt no need to involve more

staff in future evaluations was the respondent from the site that involved at least two staff in their recent evaluation. This finding suggests that there should be a way to involve more than one staff member from the beginning of the evaluation process. What is contradictory in all of this is the fact that survey respondents expressed general satisfaction with staff engagement in the evaluation process when this question was posed directly. For example, half of the respondents expressed the opinion that they were satisfied, three were moderately satisfied while only one respondent was very satisfied with the evaluation process in terms of MPA staff participation. The findings of the survey offer no additional insight to explain this apparent inconsistency.

Third, what was also important from the findings of the survey was that five of the respondents agreed with the idea that involving more MPA staff in the evaluation would result in the process being more efficient and effective. Of these, three respondents expressed how they strongly agree with this idea. Conversely, one respondent expressed disagreement with this idea, while two respondents were uncertain. As mentioned above, it is also relevant to mention here that the particular respondent that disagreed with this idea was the respondent that did involve the most staff (at least two) unlike other respondents. While not entirely conclusive, this is a finding that may offer additional evidence that, based on the perspective and experience of the people who conducted and coordinated these evaluations, engaging more MPA staff in an evaluation process may be useful and appropriate, and can help the process to be more efficient and effective.

5.2 Recognizing the importance of MEE and sharing it results

Sharing evaluation results is likely to be critically important in that such information is collected and analyzed primarily for the purpose of supporting adaptive management. Sharing evaluation results was recognized by all survey respondents as important, emphasizing that additional effort should be directed at sharing results with MPA managers, senior staff and the rest of MPA staff, but also with the stakeholders.

Typically, people who are the most interested in those results are people who are directly involved in management of a MPA or affected by its management (Pomeroy et al., 2004). This indicates the need for developing a system to more broadly share the MEE results with MPA staff since all of them contribute to managing the MPA. Management practices are adapted because they need to respond to a changing and dynamic environment of the site being managed. Therefore MPA staff need to clearly identify and understand which management practices are not being effective and therefore must be adapted so the management effectiveness of the site can be improved. The opportunity to share those results may also build social capital within MPA governance. Building social capital, according to Falk and Harrison (1998) is possible in the short term and it can be achieved simply through greater active staff engagement in the evaluation processes utilizing networks of relationships between all MPA staff, and stakeholders, who can then collectively foster an atmosphere conducive to greater collaboration and social learning. This can, in turn, increase resiliency and adaptability of protected area governance (Leys and Vanclay, 2010; Olsson et al., 2004). Management effectiveness evaluation can provide the mechanism, and the will, to more effectively solve problems through cooperation. It is important to note here that it is not just the number of staff that will build social capital but the value those staff place in acquiring and using information about MPA management identified through MEE to improve and enhance stewardship of site resources through adaptive management. By building social capital in MPA governance, one can improve collaboration, expanding understanding of the contextual factors (both temporal and spatial) that work to undermine or maintain an MPA (Johnstone, 2009). In the end, more effective MEE, and ultimately the management of the MPA, can be achieved by trusting personal relationships between staff, managers and stakeholders. Therefore, building social capital, effectively utilizing the MEE process as a vehicle for broader engagement by others who are involved and affected by the management of that site, is something that needs to be taken into consideration and given particular emphasis by the staff engaged in this process.

Survey results suggest that all respondents had some initial familiarity with and knowledge of the MEE process and its implementation. For example, half of the respondents were familiar with the QEM-Med Guide and implementation process

before the evaluation process was initiated at their site. Two respondents were very familiar while two respondents were only somewhat familiar. It is particularly important for the coordinator of the evaluation process, and ideally all MPA staff engaged, to get “to know” the evaluation tool (in this case, the QEM-Med Guide) before the evaluation process begins. This increased knowledge and familiarity with the process helps to ensure that the evaluation can be effectively coordinated and implemented.

At a more basic level, the survey results also suggest that all respondents identified the importance of MEE. Clearly, for a successful assessment of management effectiveness it is important for MPA managers and staff to recognize value of what the MEE offers (Hockings et al., 2006). The findings of this survey appear to support and acknowledge this perceived importance. For example, before the evaluation process began, only one respondent found it extremely important. Six of the respondents found MEE very important while for one respondent it was moderately important. Nevertheless, management effectiveness evaluation needs to be taken seriously and the usefulness of the evaluations depends on whether the results satisfy the objectives and provide meaningful recommendations that are specific to a particular management context (Hockings et al., 2006).

One other thing and perhaps the most important point to make MEE more effective is through building and fostering a culture of evaluation. First, as suggested by the survey results that there is a need to clearly recognize and acknowledge the importance of the MEE process, strong senior leadership that is committed to providing consistent and regular effective communication about evaluation importance is essential. For an MPA manager or evaluation coordinator, it is important to present an evaluation as a way of giving staff a voice and also as a way of showing that management is listening. Developing a culture of evaluation through greater MPA staff engagement in the evaluation process can develop a stronger sense of their responsibility and “ownership” of the MPA, and most importantly, they can use relevant information to act upon and be more willing to share in the work that needs to be done (Preskill and Torres, 1999). As mentioned previously, it is important to note that it is not just the number of staff and strong leadership that will build a culture of evaluation but it is also incumbent on the staff to appreciate and

acknowledge the true value of the evaluation as an essential and ongoing element of MPA management. Even though a culture of evaluation can create opportunities for MPA staff to become more deeply engaged in what they do, how well they do it, and what can be done better, it is up to staff to recognize and respond to unanticipated outcomes not as a failure or mistake, but as an opportunity to learn what went wrong and how to do better the next time. MPA managers and staff have to be aware that an evaluation, done well, will not be used in a punitive way, does not threaten their continued employment or potentially result in the perception that they are not “getting the job done”. Adaptive management is not a process by which “failures” are identified, but one where progress is made toward achieving management goals.

In the end, the survey results suggest that there is some recognition, by the respondents, that these evaluations were a useful thing to do and that it was worth the time and effort, since many recommendations arising from the evaluation may likely be incorporated into the MPAs management plan. To be more precise, survey results have shown how, for all eight respondents, MEE was a valuable tool to employ, five of which went on to say that it was very valuable. This suggests how MEE is a valuable thing to do, worth the time and how MEE must be conducted to help MPA governance to understand what needs to be done for more effective management of an MPA. Furthermore, the results of this study indicate that some of the recommendations arising from the evaluation already have been incorporated into a revised management plan for the MPA or led to changes in the way the MPA is managed. For example, three sites have incorporated recommendations into a revised management plan right away while three sites haven't incorporated any recommendations so far. Also, two sites were uncertain if recommendations were incorporated in management plans but according to the survey results they might be when the time comes. That is because, when respondents were asked if they believe that the recommendations arising from the evaluation will eventually be incorporated into the MPA management plan, most of the responses were somewhat positive. For example, one MPA site will incorporate all recommendations, four MPAs will incorporate many of the recommendations, while three MPAs sites will incorporate only a few of the recommendations into the MPA management plan. Therefore, when MEE is conducted, effectively, it can help an MPA to change the way it is being managed and progress can be made toward achieving management goals. To evaluate

the management effectiveness of MPAs, and any follow-up improvements, through a one-off assessment is a challenging and complicated task. Nevertheless, MEE should be a regular, integral part of the management process because gathering information regarding progress toward achieving management goals is essential for demonstrating improvements in management effectiveness (Hockings et al., 2006). That means that if there is a greater active staff engagement in the evaluation process, perhaps many of those recommendations can be understood and incorporated in MPA management even before then they are incorporated in an official management plan.

In summary, the secondary data review and survey results suggest that none of the three hypotheses could be rejected. The first hypothesis was that greater active engagement of MPA staff in the conduct of MPA effectiveness evaluations results in more efficient and effective implementation of effectiveness evaluation process. The results of this research have shown that there is a need for greater active MPA staff engagement in the MEE process, engaging more staff in an evaluation process may be useful and appropriate, and can help the process to be more efficient and effective. For example, at least two respondents did not have enough staff support from the beginning of the evaluation process. Furthermore, it was also found that at least four respondents would actively involve more MPA staff in the evaluation process next time one is conducted at that site, as five of them believe that involving more MPA staff in the evaluation would result in the process being more efficient and effective. The second hypothesis was that greater active engagement of MPA staff in conduct of MPA effectiveness evaluation processes expands opportunities for sharing of information and ideas among the staff regarding evaluating and improving management effectiveness. Here, based on the findings and secondary data review it is shown that with greater active staff engagement in the MEE process and building social capital within MPA governance there is a possibility and opportunity to share information and ideas regarding not only MEE but also more effective management of an MPA. Also, it can collectively foster an atmosphere conducive to greater collaboration and social learning. Therefore, the second null hypothesis was not rejected. The third hypothesis, which also could not be rejected, was that greater active engagement of MPA staff in conduct of MPA effectiveness evaluation processes will help create and foster a “culture of evaluation” at the MPA that promotes and values evaluation as an ongoing and essential part of implementation of

its site management plan through the adaptive management process. The survey results and analysis have shown that through greater active staff engagement in the MEE process, a culture of evaluation can be created which can develop a stronger sense of staff responsibility and “ownership” of the MPA. Also, this further suggests that a culture of evaluation can create opportunities for MPA staff to become more deeply engaged in what they do, how well they do it, and what can be done better. All this can contribute to a more effective evaluation process but also to the more effective management of MPAs. Therefore it must be understood, that to achieve a more effective evaluation process and more effective MPA management, it is important to recognize not only the importance of MEE but also importance of building and fostering a culture of evaluation.

5.3 Research limitations and future research

There are some limitations of this study that should be considered when interpreting the results. Perhaps the main limitation of this study is based on the availability and amount of time each respondent was expected to dedicate to this survey. Questions were limited to a time span of approximately 10-15 minutes. This limited the number of questions as well as the scope of the study. Another limitation is that the study may have been more effectively conducted through Skype, telephone, or in-person interviews and not with an online survey. Availability of respondents, language barriers and time zone differences did not allow for a face-to-face discussion, which could have provided opportunities for follow-up questions to clarify responses. For example, the incorporation of qualitative, open-ended questions would have helped to address issues of inconsistency found in the above discussion. More precise reasons would be gathered about the level of satisfaction in terms of staff participation, what were the reasons that could make respondents more satisfied, what were the elements of the MEE with which they were most satisfied? Was it because staff did all that was required of them and without any problems, or what was the reason that they were not more satisfied? On the other hand, this online survey methodology did, remove the potential component of subjectivity from an interviewer, allowing for potentially more unbiased responses.

There are also some limitations in the survey design that needs to be taken into consideration. First, this survey had one potentially “leading” question where respondents may have been influenced toward a positive answer. That question was: *“Do you agree or disagree with the idea that a way of involving more MPA staff in the MEE should be found, since it entails more data exchange and results shared between the MPA staff”*. Overall, other survey questions and responses suggested that respondents believed that a way should be found for achieving greater staff engagement, which suggests that this question may have had a limited influence on the survey results, potentially making any bias induced by this question less relevant. Another survey limitation was in attempting to establish the exact number of MPA staff assigned to assist in the evaluation in comparison to the total number of staff at the site. The survey provided the option of “0 to 1”, not differentiating between the two options. In this, the survey is unclear as to how many individuals were actually assigned when this answer was selected. Perhaps, asking how many staff in total were actually actively involved in evaluation process itself would offer a more relevant finding. That would give an exact percentage of how many staff were involved in conducting evaluations, compared with the total number of MPA staff, and it would provide a bigger and wider scope of analysis and discussion.

Another limitation was that this study did not investigate in more depth the role of the coordinators who were consulted about how many MPA staff should be assigned to assist in the evaluation, and whether or not MPA management acted according to the recommendation. This could provide some better sense of the level of commitment and interest of the MPA leadership in MEE, and provide a deeper understanding of what reasons were provided to the coordinator regarding why they should or should not assign the recommended number of staff. Also, what could have been asked in the survey, to better evaluate the null hypotheses posed in the thesis, is posing a question whether any problems arose that specific staff member couldn't respond to effectively. That would assist future coordinators or evaluators in anticipating unexpected problems in the evaluation process. Furthermore, one survey question could have more directly addressed the possibility of sharing ideas between staff, and soliciting their opinions on improved evaluation approaches. For example, did any ideas come from staff regarding how to approach the evaluation during the evaluation process or did they share any ideas amongst themselves regarding

evaluation? Such a question would give some sense of how focused staff were in the evaluation process and if ideas did make MEE more effective in some way. The last thing that this study failed to do is to determine whether there were staff that weren't involved in the evaluation process but were curious about the evaluation results, tool or even process itself. A question like this could help to show if other staff may have been interested but not engaged, suggesting that a potential pool of staff might have been willing and interested in participating in the MEE, and perhaps whether an atmosphere currently exists at these sites for building a culture of evaluation.

The study has evaluated the role of MPA staff in the evaluation process through experiences of the MEE coordinators. Continuing forward, it would be interesting to study the “bigger” picture about the roles of MPA staff in MEE and to evaluate the experiences of those MPA staff that were involved in conducting the evaluation. For example, whether they encountered any problems during the evaluation, or if they found something that felt could make the MEE process more approachable. From their perspective, it would be interesting to see whether greater staff engagement might equate to a strong culture of evaluation. Also, it would be interesting to find out what can motivate the staff so that they can better evaluate what they are doing, why they are do it, and how can they do it more effectively, on both a personal level or for the benefit of the MPA. Another possible area of future research would be to investigate the approach to the evaluation from the perspective of the coordinator. For example, how much time they needed for preparation and the evaluation process in total, what they found as the most important and the hardest part of the preparation, did they find something difficult or what aspect of the QEM-Med Guide they didn't understand at first. Continuing with this idea, would they perhaps involve some of the stakeholders and why, and perhaps whether they thought it might be useful and appropriate to initiate implementation of the QEM-Med Guide in the same room with as many staff as possible. This would allow it to be compared with the results of this study to see if there is something that needs to be done in the evaluation approach that can make the evaluation more effective and perhaps quicker. All this can help coordinators to use of the QEM-Med Guide tool more effectively and provide further direction on aligning the tool to MPA conditions.

6 Conclusion

The need for management effectiveness evaluation of MPAs has become important to MPA management around the world. The mere action of implementing a management effectiveness evaluation tool brings about much needed discussions and awareness within MPA management staff leading to improved management of MPAs. Still, there are many different approaches and methodologies for assessment of MPA management effectiveness all around the world including in the Mediterranean. The purpose of QEM-Med Guide is to address the need for a more approachable assessment of management effectiveness in Mediterranean MPAs and it serves to create a baseline for the monitoring of the Mediterranean MPA network. When MEE already needs to be conducted for purpose of monitoring the Mediterranean MPA network it should be done entirely for the benefits of the individual MPA. This is to say that although benefits of a network are shared, principal goals should be connected with the respective MPA first, and thereafter related to the network. The findings of this research conclude that sharing the tool and its results with MPA staff seems to be lacking. This is an issue that should be addressed by all MPAs conducting MEE, especially those using this guide as a framework.

The purpose of this thesis was to determine if greater MPA staff engagement could enhance management effectiveness evaluations, particularly in regards to those MPA sites in the Mediterranean implementing the QEM-Med Guide as a framework for their evaluation. The results of this research support the idea that greater active MPA staff engagement in the MEE process may improve QEM-Med Guide implementation efficiency, help to share its result, and can create a culture of evaluation that promotes and values evaluation as an ongoing and essential part of implementation of the site management plan. Furthermore, the results of this study have shown that there were fewer numbers of staff actively engaged in the evaluation process, relative to the total number of staff working on the site, than might be needed to more effectively implement the MEE. To be more precise, seven of eight sites assigned between zero and one staff member to assist in conducting the evaluation. It was also shown that at least four respondents would actively involve more MPA staff

in the evaluation process next time one is conducted at that site, as five of them believe that involving more MPA staff in the evaluation would result in the process being more efficient and effective. Therefore, based on the experiences of evaluation coordinators, the survey results suggested that there is a need for greater active staff engagement in evaluation process and that greater active staff engagement can result in more efficient and effective implementation of the effectiveness evaluation process.

Another point of this thesis research suggests that incorporating greater active MPA staff engagement in the evaluation process may help to share information and ideas regarding evaluation and management effectiveness. This can be achieved through building a social capital within MPA governance, but it is up to staff, within themselves and with encouragement of senior management, to create the need for information about MPA management and what can be done to be more effective. Therefore, it is not just the number of staff, but the value those staff place on acquiring and using information about MPA management identified through MEE to improve and enhance stewardship of site resources through adaptive management. In the end, with building social capital, MPA staff and stakeholders would collectively foster an atmosphere conducive to greater collaboration and social learning which can, in turn, increase resiliency and adaptability of marine protected area governance.

Perhaps the most important point of this thesis is that incorporating greater active MPA staff engagement in the evaluation process may create a culture of evaluation that promotes and values evaluation as an ongoing and essential part of the implementation of site management plans. Building and nurturing a culture of evaluation could help MPA governance to value empirical evidence with the outputs and outcomes that they are trying to achieve. Furthermore, developing a culture of evaluation through greater MPA staff engagement in the evaluation process can develop a stronger sense of staff responsibility and “ownership” of the MPA. Most importantly, they can use relevant information to take action and be more willing to share in the work that needs to be done. Probably the easiest way to foster a culture of evaluation can be seen through undertaking evaluation and monitoring by as much MPA staff engagement as possible. By doing so, a climate in the MPA’s governance might be achieved where evidence on performance is valued, sought out and seen as essential to effective management (Mayne, 2008). To achieve all this, it is essential

that there is a strong senior leadership that is committed to providing consistent and regular effective communication about evaluation importance. However, even though a culture of evaluation can create opportunities for MPA staff to become engaged in what they do, how well they do it, and what can be done better, it is up to staff to appreciate and acknowledge the true value of the evaluation as an essential and ongoing element of MPA management. In other words, staff need to recognize and respond to unanticipated outcomes not as a “failure” or “mistake”, but as an opportunity to learn what went wrong and how to do better the next time. Therefore, greater active staff engagement in the evaluation process can create and foster a culture of evaluation that promotes and values evaluation as an ongoing and essential part of implementation of site management plans and adaptive management. However, this will not happen only through good intentions, but instead, dedication and diligence. It requires deliberate efforts by the organization and especially its senior managers to encourage, implement and support such a culture (Mayne, 2008).

In conclusion, despite some limitations, this study showed that it is important to engage more MPA staff in the evaluation process, and there is a need and opportunity to do so but it is up to MPA manager and coordinator of MEE to make it so and find a way do to it. Working and coming to the solution together can be highly motivating and promote a sense of satisfaction and accomplishment. Also, deep within ourselves, we all have a need to improve and to be more effective individuals day after day and evaluating our everyday surroundings can help us understand them better and, perhaps, do something about it. Therefore, being actively engaged in process of MPA management effectiveness evaluations can help individuals to become more productive in what they do, how they do it, and in the end make the MPA management more effective. All that being said, the findings of this study can potentially help make MEE more effective through expanding and enhancing MPA staff engagement, and aid those using the QEM-Med Guide, and potentially other MEE methodologies, to be more effective and efficient in preserving the important resources MPAs are established to manage and protect. Taken together, these findings do support strong recommendations for future implementation of MEE and those can be found in the following section.

7 Recommendations

The findings of this study have a number of important implications for future assessment of MPA management effectiveness, especially using the QEM-Med Guide as a framework. The thesis results suggested that there is a definite need for the evaluation of management effectiveness to involve more than one MPA staff member, or as many as possible should be involved because it can help in the adaptive management process and implementation of recommendations arising from the evaluation. However, it is important to note that it is up to MPA managers and/or evaluation coordinators to find a way to put these recommendations into practice. Since the QEM-Med Guide is a quick and straightforward tool that is also applicable for newly establish MPAs, it is suggested that at the beginning of the evaluation process as many staff members as possible should be engaged for a more effective evaluation process and, as a result of that greater engagement, a culture of evaluation could be created within MPA governance for the future effective management of that site. Furthermore, with greater staff engagement in the MEE process, greater social capital may be built within MPA governance and could create the opportunity to share results and ideas regarding MEE or management of the MPA. Therefore, it is important that the MPA manager and evaluation coordinator clearly recognize and acknowledge the importance of the MEE process, but also the importance and benefits of having and developing social capital.

The most important recommendation is to build and foster a culture of evaluation within MPA governance through greater staff engagement in the evaluation process, and also convey its importance to the staff. To do so, strong senior leadership that is committed to providing consistent and regular effective communication about evaluation importance is essential. Therefore, it is strongly recommended that the MPA manager or evaluation coordinator encourages, supports, and promotes a culture of evaluation for better implementation of the evaluation process, and also for more effective management of the MPA in the future. To do that, the MPA manager and evaluation coordinator need to be aware that culture of evaluation contributes to managing the MPA more effectively in many ways. For example, developing a culture of evaluation through greater MPA staff engagement in

the evaluation process can develop a stronger sense of staff responsibility and “ownership” of the MPA, and most importantly, they can use relevant information to act upon and be more willing to share in the work that needs to be done. Also, a culture of evaluation can create opportunities for MPA staff to become more deeply engaged in what they do, how well they do it, and what can be done better. Therefore, having a culture of evaluation can be beneficial on personal, professional, and institutional level. Establishing and fostering this “way of doing business” isn’t an easy task and it requires deliberate efforts by all MPA staff, especially senior managers, and when culture of evaluation is established, it must be maintained and developed (Mayne, 2008). Also, it is very important that MPA managers and staff are aware that an evaluation, done well, does not threaten their continued employment or potentially result in the perception that they are not “getting the job done”.

To conclude, it is very important to position an evaluation as a way of giving staff a voice, and also as a way of showing that management is listening without judging. This could give the staff the opportunity to more freely exchange ideas and see what management practices are not being effective and need to be adapted. For example, a reasonable approach to tackle this issue could be that all the staff from the different directorates are interviewed as a group for consensus on different issues with indicators raised in the QEM-Med Guide. Furthermore, all MPA staff and evaluation coordinators could sit down together and go through questions/indicators of the QEM-Med Guide. It should not take too much of staff time and it can only help them to do their usual jobs more effectively, either directly or indirectly. All in all, by thinking together in the same direction, the overall effectiveness of the staff should improve over time, showing that working together yields better results and it should therefore become an everyday routine. At the end, this thesis showed why it is justified and important to engage more MPA staff in the evaluation process, but it is still up to the MPA manager and coordinator of MEE to make it so and find a proper way of doing it.

*“Unity is strength...
When there is teamwork and collaboration, wonderful things can be achieved.”
— Mattie Stepanek*

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Appendix A

This questionnaire is part of a master's thesis in Coastal and Marine Management at the University Center of the Westfjords. Your participation is appreciated and your answers will help in future assessment of MPA management effectiveness. For further information you can contact Matija Drakulić: matija.drakulic@gmail.com

1. Name of the MPA where management effectiveness evaluation was conducted: _____.
2. Name and affiliation of person coordinating management effectiveness evaluation. Name _____ Affiliation _____.
3. What is your academic background? _____.
4. Is this the first management effectiveness evaluation that you were responsible for conducting? Yes No
If no, how many management effectiveness evaluations have you coordinated before this one? _____.
5. How familiar were you with the evaluation methodology and implementation process before the evaluation process was initiated at this site?
 Very Familiar Familiar Somewhat Familiar Not Familiar
6. Approximately how many total employees were on staff at the time the evaluation was conducted?
 0-1 2-7 8-10 10-20 more than 20
7. How many MPA staff were assigned to assist in the conduct the evaluation?
 0-1 2-4 5-7 8-10 more than 10
8. As the coordinator of the evaluation, were you consulted about how many MPA staff were assigned to assist in the evaluation?
 Yes No I was responsible for assigning staff.
9. After staff were assigned, did you feel you had enough MPA staff to assist in the implementation of the evaluation process?
 Yes No Not Sure
10. Did you feel that you had sufficient access to MPA staff who were needed to provide information about MPA management for the evaluation?
 Yes No Not sure

11. Did you find the MPA staff who were asked to provide information about MPA management for the evaluation:
- were sufficiently responsive to requests for information? Yes No
 - provided requested information in a timely way? Yes No
 - offered responses that fully and adequately addressed the question posed? Yes No
12. Did you require assistance from other persons outside the MPA staff to conduct the evaluation?
- Yes No
- If yes, how many people _____ and what did they do?
- _____
13. Generally, how satisfied were you with the evaluation process in terms of MPA staff participation in the evaluation itself?
- Very satisfied Moderately Satisfied Satisfied Somewhat Unsatisfied Unsatisfied
14. Would you agree or disagree that a way of involving more MPA staff in the management effectiveness evaluation should be found, since it entails more data exchange and results between the MPA staff?
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
15. Given your experience with this evaluation, would you involve more MPA staff in the evaluation process next time you conduct an evaluation?
- Yes No Not sure
16. Do you agree that involving more MPA staff in the evaluation of management effectiveness would result in the process being more efficient and effective?
- Strongly disagree Disagree Neither agree nor disagree Agree Strongly agree
17. If the evaluation was coordinated primarily by MPA staff, do you feel it would be more efficient and faster if someone from outside the MPA staff with experience in management effectiveness evaluations would have been hired to coordinate the evaluation?
- Yes No Not sure.
- Why or why not?
- _____

18. If the evaluation was coordinated primarily by an outside consultant, do you feel that it would be better for the coordinator to be someone from the MPA staff?
- Yes No Not sure.
- Why or why not?
-
19. Before the evaluation process began, how important did you think conducting this evaluation might be to improving management effectiveness at this site?
- Extremely important Very important Moderately important Slightly important Not important
20. After the evaluation was completed, did you feel that it was a valuable and potentially useful thing to do... that it was worth the time and effort it took to complete?
- Very valuable Moderately valuable Slightly valuable Not worth our time
21. Have any of the recommendations arising from the evaluation been incorporated into a revised management plan for the MPA or led to changes in the way the MPA is managed?
- Yes No Not sure
22. Do you believe that the recommendation arising from the evaluation will eventually be incorporated into the MPA management plan or lead to changes in the way the MPA is managed?
- all recommendations many of the recommendations a few of the recommendations none of the recommendations.
23. Do you believe it is important to share all the results of the evaluation with: (indicate importance with 0=not important to 5=very important)
- _____ MPA manager and senior staff
- _____ all MPA staff
- _____ Stakeholders
- _____ Regional NGOs
- _____ National authorities
- _____ Other international MPA managers
24. Any additional comments: _____.



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