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Identifying and mitigating potential risks for Marine Stewardship Council assessment and certification

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ABSTRACT

The assessment of a fishery against the Marine Stewardship Council (MSC) standard requires a large amount of technical knowledge and fishery information. Failure to meet the minimum requirements or to provide the necessary information may result in 'conditions' being placed on a fishery, which can increase the overall cost of maintaining certification. Thus, it is prudent for the fishery client to have a thorough understanding of any potential areas of weakness prior to undergoing assessment. This study investigates patterns in the types of conditions received by MSC certified fisheries to identify common risk areas based on general fishery characteristics, such as target species, fishing method and geographic region.

Fisheries targeting crab/lobster, large pelagic finfish and flatfish, and fisheries operating in the UK/Europe and the NE Pacific regions, received more conditions related to the target species' stock status (MSC Principle 1) than other groups investigated. Ecosystem (MSC Principle 2) conditions were more frequently received by fisheries using demersal trawl or longline methods compared to hand collection, line fishing or other types of netting. A high proportion of shrimp and crab/lobster fisheries, fisheries in the NW Atlantic region and dredge fisheries received Governance/Management (MSC Principle 3) conditions.

Case studies from five types of frequently-certified fisheries are used to identify mitigation strategies for common high-risk areas. The identification and mitigation of risk areas has important implications particularly for small-scale and developing-country fisheries that have limited resources and therefore need to minimise the number of conditions received. Similarly, the identification of common risks areas highlights where more explicit guidance needs to be incorporated into future reviews of the MSC standard, e.g. Harvest Control Rules, to assist prospective fisheries and to ensure consistency in assessments.

1. Introduction

Concern over the sustainable use and management of marine resources has led to a rapid increase in seafood certification schemes and eco-labelling over the last ten years (Parkes et al., 2010; Gale and Haward 2011; Washington and Ababouch 2011; Ponte 2012; Tlusty 2012). While there are a number of seafood certification schemes available, the most prominent is the Marine Stewardship Council (MSC; Gutiérrez et al., 2012; Ponte 2012; Bush et al., 2013; Ward and Phillips 2013), which accounts for approximately 10% of annual global harvest of wild-capture fisheries (MSC, 2014a).

The MSC certification process involves an independent, third-party assessment (conducted by Conformity Assessment Bodies; CABs) of a fishery or unit(s) of certification (UoC; defined as a target species captured using a specific fishing method in a geographical area) against the MSC fisheries standard. The standard is based on three Principles: Principle 1 (P1) — assessment of target stocks; Principle 2 (P2) — ecological and environmental impact of the fishery; and Principle 3 (P3) — governance and management of the fishery. Each Principle consists of a series of performance indicators (PIs) against which the fishery is scored; if a PI scores less than 60, the fishery automatically fails; a score of 60–79 is a conditional pass where identified and approved improvement action plans must be

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completed within the certification period; and a score of 80 – 100 is an unconditional pass, i.e. the fishery currently meets the criteria. In order to pass, a fishery must also have a minimum average score of 80 across each of the three Principles.

Since 2000, the MSC program has expanded rapidly with 265 fisheries currently certified and an additional 108 fisheries in assessment (www.msc.org; accessed 10 August 2015). The MSC has certified a range of fisheries from large, industrialised fisheries such as Alaskan Pollock – the largest whitefish fishery in the world – to small-scale, multispecies fisheries, e.g. the Lakes and Coorong Fishery in Australia, and developing world fisheries, such as the Ashtamudi Estuary Clam Fishery in India. Although a variety of fisheries have been certified, concerns have been raised regarding the certification process and its effectiveness, particularly in relation to the accessibility of the program for small-scale and developing world fisheries (Pérez-Ramírez et al., 2012). The amount of resources required to achieve and maintain MSC certification means that large-scale fisheries with dedicated research programs and formal governance frameworks are often better positioned to pursue certification than small-scale and/or developing world fisheries (OECD, 2011; Washington and Ababouch 2011; Gutiérrez et al., 2012; Ponte 2012; Ward and Phillips 2013).

The consistency with which the standard has been applied across a range of fisheries has also been questioned (Gilmore 2008; Jacquet et al., 2010; Washington and Ababouch 2011; Ponte 2012). Prior to 2010, fisheries were assessed using a fishery-specific assessment tree, which allowed greater flexibility in assessment but also led to inconsistencies in scoring (Gilmore 2008; Ward, 2008). This was partly due to different interpretations of the PIs by the assessors (Gilmore 2008; Ward, 2008; Jacquet et al., 2010) or in some cases, the level of involvement of stakeholders, particularly environmental non-governmental organisations (Gilmore 2008; Christian et al., 2013). The implementation of a standardised Fisheries Assessment Methodology (FAM) in 2010 partly addressed these inconsistencies by establishing a more-comprehensive and objective process (Cambridge et al., 2011; Martin et al., 2012; Ponte 2012), where fisheries are scored against a default assessment tree.

The MSC assessment process requires a large amount of technical knowledge and information (Washington and Ababouch 2011; Ward and Phillips 2013), which is largely the responsibility of the fishery's managers and scientists to provide. Therefore, it is crucial that the fishery and associated management agencies have a sound understanding of MSC requirements and potential areas of weakness in the fishery prior to undergoing assessment (Heupel and Auster 2013; Bellchambers et al., 2014). Failure to provide sufficient information to address a PI may cause delays in the assessment process or result in conditions being placed on the fishery (Heupel and Auster 2013; Ward and Phillips 2013; Bellchambers et al., 2014), both of which may increase the cost of achieving and maintaining certification (Goyert et al., 2010; Pérez-Ramírez et al., 2012; Christian et al., 2013).

Since 2013, the MSC Global Impacts Report has used selected indicators to evaluate the effectiveness of the MSC program and highlight areas where fisheries frequently receive conditions (MSC, 2014b). Building on the outcomes of the 2014 Global Impacts Report, this paper investigates common conditions received by MSC certified fisheries. The aim of the paper is to provide an overview of common risk areas for achieving MSC certification based on general fishery characteristics, such as target species, fishing method and the geographic region where fishing occurs. The paper also provides examples of how five types of frequently-certified fisheries have addressed these risk areas and the certification requirements in general. The identification of these common risk areas and potential mitigation strategies will be useful in assisting fisheries entering MSC assessment to adequately prepare, thus reducing the likelihood of receiving conditions and ultimately the time and cost of certification.

2. Methods and results

2.1. Data exploration

Data for all fisheries and associated UoCs certified by the MSC prior to October 2014 were collated from the Public Certification Reports available on the MSC website (www.msc.org). To compare outcomes across the PIs, the dataset was limited to fisheries assessed or re-assessed using the FAM v1. Cultivation and salmon fisheries were excluded from the dataset as these fisheries are assessed using fishery-specific assessment trees or a modified FAM, making comparisons difficult. All data from 'Stock Rebuilding' (PI 1.1.3) were also excluded, as few fisheries have been assessed as depleted and have therefore received a score for this PI. It is important to note that a single fishery may be composed of multiple UoCs, i.e. a fishery may target more than one species or stock, use multiple gear types or operate in several discrete locations. This paper examines the data at the UoC level rather than the fishery level. Therefore, there is a level of pseudoreplication within the dataset as a result of UoC scores being replicated within a single fishery assessment and harmonisation across assessments. The final dataset consisted of 181 fisheries comprising 286 UoCs.

The information collated for each UoC included: target species, fishing method, geographic location of the fishery, landings (in tonnes), CAB undertaking the assessment, number of years certified and the individual scores received for each PI. Due to the large range of target species, fishing methods and geographic regions in the dataset, these categories were grouped based on similar characteristics or regions. Target species were aggregated into nine broad taxonomic groups: three invertebrate groups — molluscs (Class Bivalvia), shrimp (Family Peneidae), and crab/lobster (Order Decapoda), and six finfish groups — small pelagics (Order Clupeiformes), large pelagics (Order Perciformes), flatfish (Order Pleuronectiformes), scorpionfish (Order Scorpaeniformes), whitefish (Order Gadiformes) and other fish (all remaining species; Fig. 1a). Fishing methods were classified into eight groups based on gear type and a presupposed level of environmental impact (Fig. 1b). For example, the 'net' category included various types of static gillnet fisheries but excluded active methods such as trawl or seine netting, which were defined as separate groups given the potential interaction of these fishing methods with benthic habitats. Six regions were defined based on geographically-discrete locations or by aggregating areas with small numbers of certified fisheries into regions of common latitudes, e.g. the 'central' region included the Central Pacific, Atlantic and Indian Oceans (Fig. 2a).

The dataset was then reviewed to examine patterns across UoC and assessment characteristics (Fig. 1). The majority (37%) of UoCs were whitefish, followed by flatfish (12% of the UoCs; Fig. 1a). Demersal trawl was the dominant fishing method (43% of UoCs; Fig. 1b). The majority of UoCs operated in the Arctic or UK/Europe (29% in each region), with few UoCs from the NE Pacific region (Fig. 1c). The majority of UoCs were from large fisheries, with annual landings of over 10 000 t (Fig. 1d). While 13 separate CABs have conducted MSC assessments, almost half of the UoCs were assessed by a single CAB (i.e. CAB 'F'; Fig. 1e). In contrast, seven of the 13 CABs have assessed less than 10 UoCs each. The vast majority (87%) of UoCs have been certified for less than five years, with 10% of the UoCs in their second certification period (i.e. certified for 5–9 years) and only 3% of UoCs in their third certification period (i.e. certified >10 years; Fig. 1f).

It is important to note that many of the factors used for grouping are not independent. Due to the nature of fishing activities, some species groups are inherently more-closely associated with