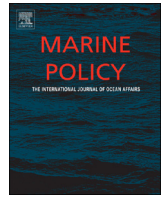




ELSEVIER

Contents lists available at ScienceDirect

Marine Policy

journal homepage: www.elsevier.com/locate/marpol

Toward shared understandings of ecosystem-based fisheries management among fishery management councils and stakeholders in the U.S. Mid-Atlantic and New England regions

Ingrid S. Biedron^{a,*}, Barbara A. Knuth^b^a Oceana, 1350 Connecticut Avenue, 5th Floor, Washington, DC 20036, United States^b Department of Natural Resources, 350 Caldwell Hall, Cornell University, Ithaca, NY 14853, United States

ARTICLE INFO

Article history:

Received 12 May 2015

Received in revised form

29 March 2016

Accepted 6 April 2016

Keywords:

Coorientation

Ecosystem-based fisheries management

Mid-Atlantic Fishery Management Council

New England Fishery Management Council

ABSTRACT

Ecosystem-based fisheries management (EBFM) is often discussed by fisheries managers and stakeholders as a potential goal. EBFM is based on a multi-species approach, which varies significantly from the single species fisheries management (SSFm) approach currently practiced under the U.S. Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). EBFM is “holistic” and considers “all factors,” but it is impossible for management to incorporate all factors into EBFM. This study sought to improve understanding of factors contributing to or preventing progress toward EBFM implementation in the Mid-Atlantic Fishery Management Council (MAFMC) and New England Fishery Management Council (NEFMC), focusing on Council member and stakeholder beliefs, attitudes, and mutual understanding. Objectives included determining mutual understanding between MAFMC and NEFMC members and stakeholders about EBFM and identifying MAFMC and NEFMC member and stakeholder preferences for EBFM definitions, practices, and outcomes, and prioritizing which aspects of EBFM managers and stakeholders find most important. Stakeholders included commercial fishermen, recreational anglers, nongovernmental organization (NGO) leaders, and Scientific and Statistical Committee (SSC) members. Over 1000 survey responses about EBFM from council members and stakeholders in the Mid-Atlantic (MA) and New England (NE) regions were analyzed. The *Coorientation Model* was used to characterize understanding between the Council and fisheries-related stakeholder groups. For the MA and NE regions, most stakeholders agreed on definitions, practices, and possible outcomes for EBFM. Results suggest that most Council members and stakeholders in the MA and NE regions support a change from SSFM to EBFM at an incremental, intermediate, or complete, gradual (5–10 years) pace. The application of the *Coorientation Model* to EBFM and the fishery management councils provided insights into how an improved understanding of the attitudes, beliefs, and mutual comprehension of Council members and stakeholder groups could potentially facilitate the implementation of EBFM. Council members and stakeholders responded similarly to, and Council members correctly predicted stakeholder responses about, EBFM definitions, practices, and outcomes. These findings suggest that Council member and stakeholder agreement and understanding are not barriers to MAFMC and NEFMC adoption of EBFM.

© 2016 Elsevier Ltd. Published by Elsevier Ltd. All rights reserved.

1. Introduction

Ecosystem-based fisheries management (EBFM), a component of the broader concept of ecosystem-based management, a holistic approach to wildlife and fisheries management [1], is discussed often by fisheries stakeholders, including fisheries managers and fishermen. EBFM is defined as the process of “managing fisheries to coordinate, account for, and include all factors in a holistic,

synthetic, integrated fashion” [2]. A distinguishing feature of EBFM is that it is based on a multi-species approach, which varies significantly from the single species fisheries management (SSFm) approach currently practiced under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) [3], one of the guiding pieces of legislation for fisheries policy in the federal United States’ (U.S.) Exclusive Economic Zone. Although the anticipated 2014 reauthorization of MSFCMA has not yet occurred, a reauthorization could more explicitly mandate the use of EBFM.

The Fishery Conservation and Management Act (FCMA) [3], a precursor to the MSFCMA enacted in 1976, designated the creation

* Corresponding author.

E-mail address: ibiedron@oceana.org (I.S. Biedron).

of eight regional fishery management councils within the U.S. Within their respective regions, the FCMA/MSFCMA granted councils the authority to identify which fisheries require management and to develop fisheries management plans, amendments, and suggested regulations to manage the selected fisheries [1]. In practice, all eight regional councils have followed an institutional precedent to practice SSFM under the MSFCMA, although all are currently carrying out some level of EBFM planning or implementation [4]. Considerable analysis has been done to determine if and how EBFM is being incorporated into regional fishery management council policies [5]. However, with the prospect of change from SSFM to EBFM underway or anticipated in multiple councils, understanding how key players conceive of EBFM is critical to fostering shared understanding. This study was initiated to identify important factors in whether or not two different U.S. fisheries management councils would move forward with EBFM, providing tangible information for those two and other regional U.S. fishery management councils to use when making management decisions about the future of EBFM.

The *Coorientation Model* [6–8] and mail survey data were used to characterize beliefs, attitudes, and mutual understanding about EBFM in the Mid-Atlantic (MA) and New England (NE) regions, including the extent of agreement among Council members and stakeholders, and the ability of Council members to predict stakeholder responses (Fig. 1). Survey topics also included perceptions about the definition of EBFM, fisheries management practices that should be implemented over the next 10 years, and desired outcomes for fisheries management in each region.

“Council members” refers to either Mid-Atlantic Fishery Management Council (MAFMC) or New England Fishery Management Council (NEFMC) members and “stakeholders” refers to commercial fishermen, recreational anglers, nongovernmental organization (NGO) leaders, and Scientific and Statistical Committee (SSC) members. Disaggregated stakeholder data were analyzed to distinguish among groups. The MA region includes New York, New Jersey, Pennsylvania, Maryland, Delaware, Virginia, and North Carolina. The NE region includes Maine, New Hampshire, Massachusetts, Rhode Island, and Connecticut. *Agreement* was defined as “the extent to which Council members and stakeholders hold the same attitudes and beliefs” and *accuracy* was defined as “the extent to which Council members’ predictions of stakeholder attitudes and beliefs is similar to the stakeholders’ actual attitudes and beliefs” [8]. Coorientation measures characterized the similarity of Council member and stakeholder attitudes about EBFM and how well Council members predicted, or perceived, stakeholder attitudes about EBFM. The study has several objectives including determining mutual understanding between MAFMC and NEFMC members and stakeholders about EBFM and identifying MAFMC and NEFMC member and stakeholder preferences for EBFM definitions, practices, and outcomes. Because EBFM is “holistic” and considers “all factors,” but it is impossible for management to incorporate all factors into EBFM, this study will help

prioritize which aspects of EBFM managers and stakeholders find most important.

2. Methods

2.1. Mail survey methodology

A mail survey was used to measure perceptions and to characterize understanding about EBFM between Council members and stakeholders in the MA and NE regions using the *Coorientation Model* [7,8]. Using the Coorientation Model, pairwise contrasts were made between decision makers and subsets of the class “stakeholder.” Two versions of the mail survey were developed, a *decision maker* survey and a *stakeholder* survey. The decision maker survey was sent to Council members, Council Staff members, and SSC members from the MA and NE regions. SSC member responses are reported here as stakeholder responses. The stakeholder survey was sent to registered commercial fishermen, registered or permit-holding recreational anglers, priority recreational anglers on Council communication lists, and leaders of NGOs with interests in federal fisheries in the MA and NE regions. Results are not reported here for Council staff members or priority recreational anglers. 5651 surveys were distributed through four mailings between January 16, 2013 and March 1, 2013 in the MA and NE regions to selected individuals in decision maker and stakeholder groups, according to the methods of Dillman [9].

2.2. Identification of survey recipients

MAFMC, NEFMC, and SSC member contact information was compiled from the MAFMC [10] and NEFMC [11] websites. The lists of commercial fishermen and recreational anglers were created by randomly selecting a subsample of individual names from the list of permit holders for each group from both the MA and NE regions. A publicly accessible government-supported database [12] was consulted, which contained the contact information of individuals listed as holders of NOAA Fisheries Northeast Region Vessel Operator cards (permits) on the National Oceanic and Atmospheric Administration’s website (as of 7/9/12) [12], to identify the sample of survey recipients from the commercial fishing industry in the MA and NE regions. Marine recreational permitting lists are controlled by state governments, and permitting information was released on a state-by-state basis. Marine recreational fishermen were randomly sampled from each of the four 2011–2012 state registries of registered marine recreational anglers that were provided by states, two states from the MA region (Pennsylvania and one state that requested anonymity) and two from the NE region (Connecticut and Massachusetts). Registrants under the age of eighteen were removed from data sets before sampling. To compile the NGO leader stakeholder list for marine fisheries organizations in the MA and NE regions, an internet search was conducted for the phrases “nongovernmental organizations in Mid-Atlantic fisheries” and “nongovernmental organizations in New England fisheries” and the contact information for either the leaders of relevant organizations, or the people who were most directly related to marine fisheries for the organizations, was included in the sample. Additionally, the observation notes and sign-in sheets and contact lists from Council staff and MAFMC and NEFMC full meetings from 2011 and 2012 were reviewed to identify representatives from nongovernmental marine fisheries-related organizations.

2.3. Non-respondent phone follow-up

A non-respondent telephone survey follow-up was conducted through the Survey Research Institute at Cornell University. The

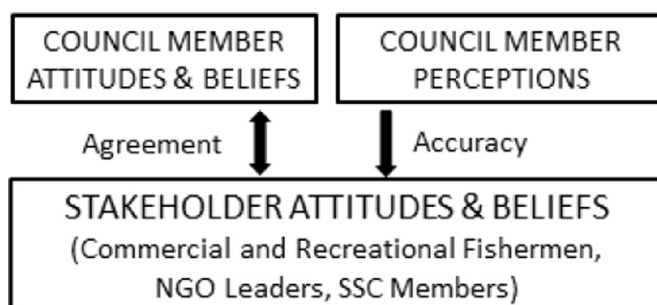


Fig. 1. Coorientation model used in the study, adapted from previous work [6,7].

Download English Version:

<https://daneshyari.com/en/article/7488971>

Download Persian Version:

<https://daneshyari.com/article/7488971>

[Daneshyari.com](https://daneshyari.com)