

STEP ZERO TO FISHERY CLOSURES IN WESTERN NEWFOUNDLAND

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Introduction

Fisheries closures are employed globally as a conservation measure to protect fish stocks. They take many shapes and forms, for instance, they may be enforced or fisher-initiated, specific to a particular species, gear, or location, and may also vary temporally. In this paper we focus on fisher-initiated closures. There are two types of fisher-initiated closures; one is voluntary and implemented by harvesters who participate in the targeted fishery; the other is initiated by fishers outside of the targeted fishery, and typically arises from issues of gear conflict or historical fishing rights. In the province of Newfoundland and Labrador (NL), Canada, fisher-initiated closures have had a presence since the 1960's, specifically those addressing issues of gear conflict. More recently, however, the voluntary approach has gained popularity and fishers in the province are working to temporarily close fisheries in which they participate (Anderson *et al.*, 2000).

The study aims to understand the idea behind voluntary closures in the province conjointly with how they are conceived, discussed and communicated. We also examine the status and conditions of the fisheries system prior to the closure to help explain why some of them proceed while others stall. There are several ongoing voluntary closures in NL, including a snow crab closure in Bonne Bay, as well as lobster closures in Trout River, Shoal Point, and East Port¹. These closures are unique as they demonstrate not only strong social capital within the fishing communities, but also a form of co-management as fishers, union representatives, and fisheries managers are all involved in their implementation. Knowledge about the 'step zero' of voluntary closures contributes to the discussion about the appropriateness of management tools and approaches for fisheries sustainability.

Why Step Zero

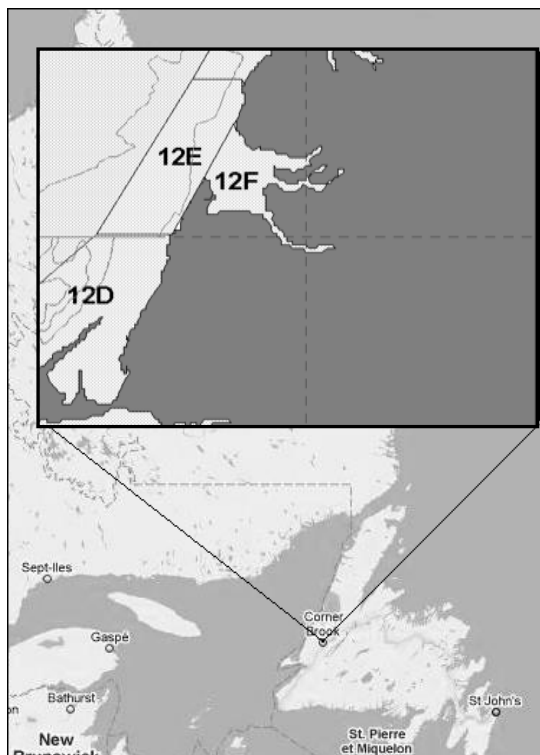
The foundation of this paper rests upon observations made by several researchers that management tools like marine protected areas (MPA), individual transferable quotas (ITQ) and community-based management (CBM) are often used as panaceas (Degnbol *et al.* 2006; Brady and Waldo, 2009). Lessons from around the world suggest that these tools are not universally applicable and that careful examination of the local context is required before selecting management approaches or tools. According to Chuenpagdee and Jentoft (2007), this involves a look at the pre-implementation or 'step-zero' of any management process. As supported by Pressman and Wildavsky (1973), pre-implementation studies originate on the premise that something must exist prior to implementation. In other words, implementation cannot occur

¹ In East Port the closure began as a temporary initiative, however was converted to a Marine Protected Area in 2005.

unless an action has begun, and it is precisely these actions which need to be examined. We illustrate the importance of ‘step zero’ by analyzing the attempt to implement a voluntary closure for snow crab (*chionoecetes opilio*) in the Bay of Islands (BOI), western NL. Specifically, we investigate four elements of voluntary closures: (1) the drivers, factors and pre-conditions that motivate voluntary closures; (2) the fish chain in the Bay of Islands, i.e. the pre-harvest (aquatic ecosystem), harvest (capture of fish), and post-harvest (processing/marketing), as well as the role each stage played in discussions regarding the closure; (3) the level of participation and interaction of key stakeholder groups in the implementation of the voluntary closure; (4) and the importance of community support for fishery closures.

Case Study

In March 2010, a group of fishers in BOI proposed a closure for snow crab in areas 12E and 12F (see Map 1). They approached their union (Fish, Food, and Allied Works union (FFAW)) and requested a closure. Subsequently, the FFAW organized a meeting with all crab fishers in



Map 1: BOI Crab Fishing Areas 12E & 12F

the BOI to discuss the idea of a voluntary closure. Although there was strong fisher-interest in the initiative, a strong minority opposed the closure. The fishery thus remained open for the spring of 2010.

The BOI consists of several coastal communities, each with a historical and ongoing dependence on fishery-based resources. The communities of Cox’s Cove, Benoit’s Cove, Frenchman’s Cove, York Harbour, and Lark Harbour are strongly tied to the fishery and were consequently the key target areas for interviews. These communities have a combined population of 3,430 and approximately 25 percent of employment is fishery-related (NL Statistics Agency, 2006). Fishers in the BOI hold multiple licenses for species which include groundfish (cod, and halibut), pelagic (mackerel, capelin, herring), and crustaceans (snow crab and lobster).

Fishing in the BOI is historically based on herring, salmon, and cod. A lobster fishery was introduced in the early 1900’s and remains vital today, while the salmon² and cod fisheries have declined significantly. Crab is a newcomer to the BOI, with the first 8 licenses issued in 1988.

Following the cod moratoria, an additional 60 crab licenses were issued. Each of the initial 8 licenses have Individual Quotas (IQ) of 17,000lbs, whereas the added licenses hold smaller IQs of 4,000lbs – all quotas are fished in 12E and 12F.

Crab landings have decreased 55 percent in the BOI since 2002, dropping from 185 metric tons, to 85 metric tonnes in 2010. In addition to landing declines, fishers continue to face significant declines in price for crab (as well as other harvested species). In 2010 fishers received

² The only salmon fishery in the BOI is a small recreational fishery.

\$1.35/lb for crab, compared to the price of \$1.75/lb received in 2002 (peaking at \$2.50/lb in 2004).

Methodology

Informal discussion with key informants such as fisheries managers, scientists, the FFAW, and community leaders were conducted. Subsequently interviews were carried out with commercial fishers, processors, and key community members. A total of 30 individuals were interviewed, which included 23 commercial fish harvesters and 7 individuals involved in either processing or the community at large.

Results and discussion

Data from interviews show that the crab closure was largely influenced by declining stocks, and further driven by an existing voluntary closure in the region, low prices, and a modest reliance on the crab fishery. While concerns about the stock were shared, stakeholders support for the closure varied, as did their expectations of closure outcomes. Fishers who supported the closure fear if they do not take action the fishery will be threatened. Some crab fishers felt that if they did not close the fishery, measures would be taken by fisheries management in the form of either quota reductions or an enforced closure. Fishers supporting the action thought a voluntary closure would give them more control over the fate of the fishery and would help rebuild the stocks ensuring a future for the industry.

Those opposing the closure were more reliant on the crab fishery than those supporting the action. The large quota crab fishers recognize a decline in landings and perceive it as an issue of overcapacity. These fishers are not confident that a closure would benefit in the long term, fearing the stocks would continue to decline when the fishery re-opened. Economically, these harvesters have more at stake as the majority of their income is derived from crab.

Voluntary closures offer many advantages to fisheries management. From a conservation standpoint, allowing a stock time to rebuild, no matter the duration, is positive. Voluntary closures may also be a more cost effective form of fisheries management. Nevertheless, the implementation process for these closures requires time and participation among fishers. Furthermore, what works in one area may not be ideal for another. From the BOI example we can see that discussions for a voluntary closure were strongly driven by a decline in crab landings. Factors which stalled the closure process include level of dependence on the fishery, involvement in the implementation process, and historical fishing rights. Declining trends of crab stocks in the BOI and strong support from fishers make it likely that the closure will be considered again in March 2011. This study helps us understand what motivates and hinders fishery closures. Understanding the closure process will help future management initiatives in the BOI, and provide insight on how to approach future voluntary closures in the area.

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