# CHAPTER 15
# BRINGING EXPERIENTIAL KNOWLEDGE INTO FISHERIES SCIENCE ADVISORY PROCESSES: LESSONS LEARNED FROM THE CANADIAN EXPERIENCE OF PARTICIPATORY GOVERNANCE

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Abstract

Canada has made a policy commitment that the science peer review and advisory processes of government departments should be transparent and inclusive of diverse sources of knowledge. During this policy's development, the Canadian Science Advisory Secretariat experimented with many approaches to include fishermen and others with experiential knowledge in the science-based meetings to assess fish stock status and produce harvest advice. Approaches explored included a) "open door", b) institutional representatives, c) invited individuals, d) industry "observers" without full intervention privileges, e) alternating technical meetings of scientists and non-technical meetings with industry. This paper reviews the strengths and weaknesses of each approach.

Among the lessons learned are:

a) Invited individuals with full participation rights has the most strengths and fewest weaknesses.
b) Never designate an individual at a science meeting as a **representative** of an organisation or sector.
c) The presence of media is highly disruptive.
d) Skilled chairs of inclusive meetings are essential (and hard to find)
e) 'Consensus advice' does not mean all participants must agree on a single interpretation of stock status and harvest. It is enough to reach consensus on the risks and the evidence consistent and not consistent with competing interpretations, and let the political process manage the risks.

## 15.1 Introduction

It is well established that people whose lives are associated with living resources and marine ecosystems acquire substantial knowledge about ecosystem relationships, the status of species in the ecosystem, and the interactions between human activities, such as fishing, and major ecosystem components (Neis and Felt 2000; Murray *et al* this volume; Vodden *et al* this volume). Many other chapters in this book document the potential value of incorporating such information into fisheries management. Such incorporation of knowledge requires not just processes for recording that knowledge, however. It also requires processes for applying that knowledge to the decisions being made and fisheries management plans being developed. This chapter is about the effectiveness of various mechanisms which have been tried by governments to bring that knowledge into the formal scientific advisory processes, as a key step leading to the development of fisheries management strategies and plans.



*T. S. Gray (ed.), Participation in Fisheries Governance,* 249–268.

The nomenclature used to make reference to this type of knowledge is diverse. Experts make many carefully nuanced distinctions among terms like 'traditional ecological knowledge', 'aboriginal traditional knowledge', 'community knowledge' (Haggan *et al* 2003). I use the collective term 'experiential knowledge' to refer to the broad category of knowledge gained through focused personal experience rather than through designed and controlled experiments or systematic scientific monitoring and data analysis (Stanley and Rice 2003). The term is intended to be broadly inclusive of all types of knowledge gained through experience, and not to differentiate among the heritage of those holding experiential knowledge, or the dynamics of the community in which they live. I do not assume that the experiential knowledge gained is independent of heritage or community context; rather, the processes being discussed for applying that knowledge to decision-making do not differentiate among the various sources of experiential knowledge.

Much of the literature on the use of experiential knowledge in fisheries management focuses on community-based management approaches (Dyer and McGoodwin 1994; Wilson and Delaney this volume; Vodden *et al* this volume). Without judging the relative value of community-based management compared to other approaches, in practice it is currently the exception rather than the rule. Can the benefits of incorporating experiential knowledge in fisheries management be obtained from management systems that are currently more widely used?

The processes used by governmental and international agencies to develop fisheries management strategies and plans are complex and often poorly documented, but typically include both well-structured processes for obtaining advice, consultation, and decision-making; and informal, opaque (not transparent) expressions of politics and power (Parsons 1993; FAO 1997). They can differ substantially according to provisions of national legislation and international treaties. Nonetheless, in essentially the entire developed world, fisheries management and policy bodies receive formal scientific advice from some source (Table 15.1).

These science advisory bodies give science advice a privileged place in government decision-making and policy development. The justification is that science advice is considered to be intrinsically different from most of the other types of input that policy and management experts receive while developing fisheries management plans. Science advice is supposed to be objective, impartial, value-neutral, and empirically-based, whereas 'advice' received from other sources is considered to be to some degree partisan and advocacy-oriented towards the social or economic objectives of the source. The information base for such 'advice' is thought to be selectively filtered by those social and economic objectives, whereas the information base for science advice is considered to be filtered only by professional standards for testing robustness and reliability of results. There is a vigorous debate in the social sciences about the degree to which scientific advice from experts in the natural and physical sciences meets the high standards of objectivity and empiricism (Pickering 1992; Hannigan 1995; Irwin and Michael 2003).