

ICES CM 2016/R:402

Science for an ecosystem approach: dilemmas in advisory processes

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Science serves as a key actor in environmental governance – fisheries management being a significant example. However, exactly how scientific knowledge and advice should be developed and applied in such science-policy interactions is still debated. Some scholars argue in favour of relying on expert ingenuity and academic self-regulation, while others assert a need for adapting policy relevant science to changing societal needs and priorities by increasing public participation in science and policy-making. Current processes in ICES to develop and give advice that enables an *ecosystem approach to management* (EAM) challenge traditional arrangements of science and policy enabling a clear delegation of tasks and responsibilities between the two domains. The EAM requires actors to consider a new complexity context, including not only those relating to the ecological system but also additional complexities inserted from economic and social perspectives of management. What role can social science theory play in contributing to a better understanding of this mayor challenge in fisheries management?

In this paper we explore the shifting role of science and scientific advise in changing policy frameworks from a linear system ('TAC machine') towards *Long Term Management Plans* and *Integrated Ecosystem Assessments*. Our question is how scientific advisory work can address emerging EAM complexities under requirements to simultaneously ensure epistemic and democratic legitimacy of expert knowledge. Using theoretical perspectives from science-policy and science and technology studies (STS), we investigate how issues of expert credibility and democratic legitimacy are addressed under changing science-policy-society relations emerging with an EAM framework and new governance requirements.

Keywords: science-policy interactions, scientific advice, credibility, legitimacy,

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